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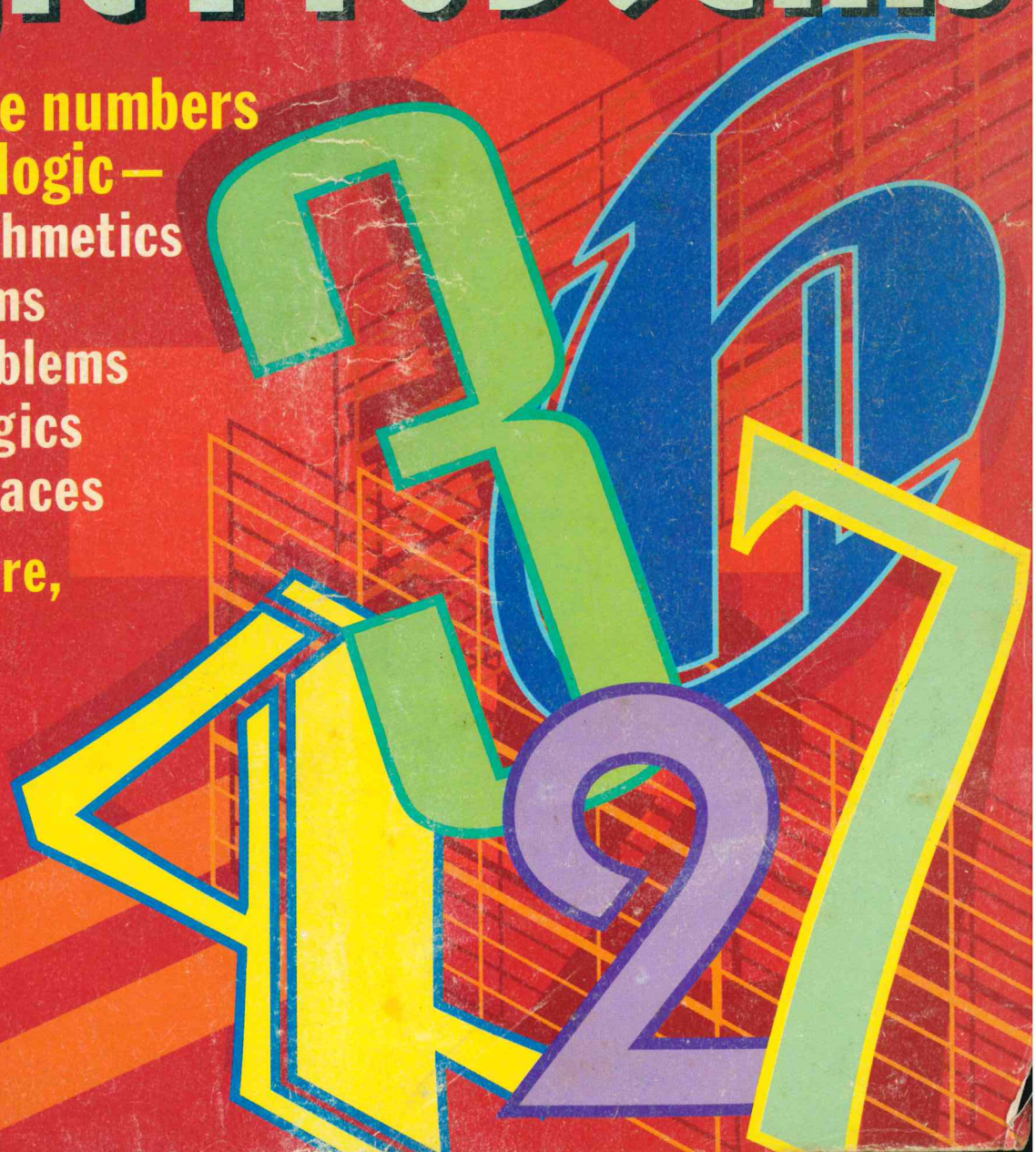

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LETTER FROM THE EDITORS

A singular pleasure of being a Dell editor is the chance to hear from so many people from all over the world. (And while we always love to hear the good news, we do take the bad along with it, especially when somebody finds a mistake in a magazine.) On the surface, one might think that he or she has nothing in common with a person in a foreign land (and that could mean the East Coast to a native of the Midwest, or vice versa!), but when the topic turns to puzzles, it's understood that there's a shared, deep love. So it is always an immense delight to read solvers' "I was first introduced to Dell..." stories. Just listen to Noreen Wurdenmann's, sent all the way from Nassau in the Bahamas:

"I first found Dell in the late '50s in Bangkok, Thailand, where I worked with the United Nations. Believe me, it was a rare occasion when your magazines could be spotted in the bookstores there! My husband and I were next transferred to Beirut, Lebanon, in the '60s, and it wasn't easy to find Dell there either. Then, in 1970, we were shuttled to Milan, Italy, where this dear little newsstand in the Galleria carried both *Official* and *Pocket Crossword Puzzles*. I so looked forward to the phone call letting me know they had arrived! 1976 brought us to London, England, and I somehow discovered at that point that I could subscribe. I thus signed up with *Dell Pencil Puzzles and Word Games*, and as they say, the rest is history! In 1986, we moved to Nassau, and only during a visit to Florida several years later did I spy a new publication — *Dell Math Puzzles and Logic Problems*. Today, I can say I have just renewed my subscription for another two years."

When we read a letter like this, there's almost nothing we can do but be completely grateful. Imagine, there are people who have such a love of words and numbers that they'll scout out Dell magazines no matter how difficult they are to find — Bangkok?!? That's just amazing. But whether you're a solver like Noreen who has traveled the globe or you have never left the small town you grew up in, it's still the same. Truly, letters from you spawn titles such as *Dell Math Puzzles and Logic Problems*. In the beginning, Dell was strictly crosswords and word puzzles (with possibly a number feature thrown in every now and again for good measure). But you started clamoring for more, and in 1989, the magazine you're holding was first published. Now, we're moving into our tenth year of *Math and Logic*.

Inside, you'll find the favorites you've been asking for all along: 15 Logic Problems, 20 Cross Sums, 10 Figure Logics, 45 Word Arithmetics, 3 Bingo Plays, 6 Number Places, along with newer favorites like Black Magic, Trigons, Secret Squares, and Mysterious Footprints. So, sharpen your pencils and dive in, and when you find a spare moment, we'd love to hear what you think about our latest edition. And we'd also love to heard of your first encounter with Dell, too! Write or fax us at:

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The January issue of *Best of Dell Math Puzzles and Logic Problems* goes on sale November 17.

the Editors

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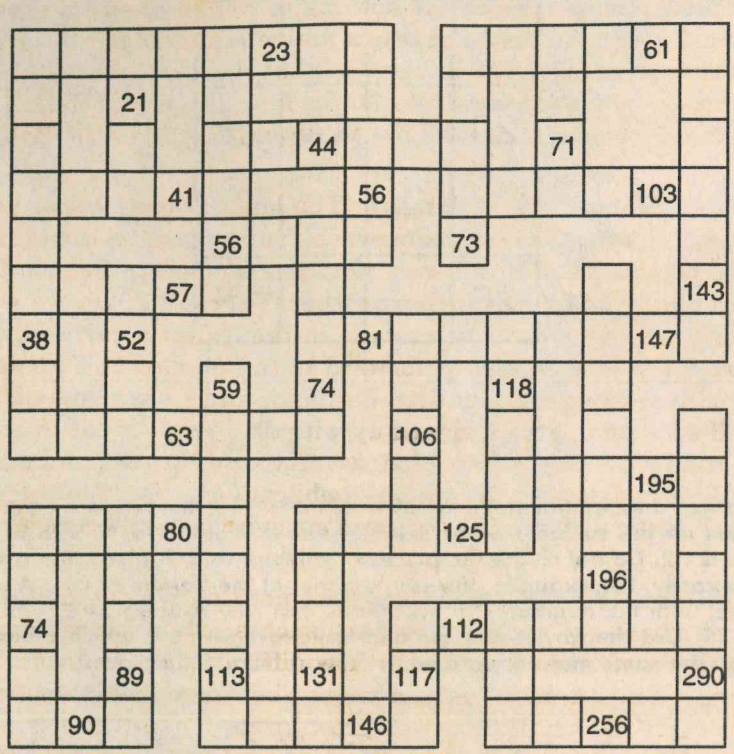
NUMBER FILL-IN

In this puzzle, the numbers to be entered into each row across and each column down will form a numerical sequence with the numbers already in the diagram. For example, if you saw the numbers 5, ?, 15 already in the puzzle, you could figure out that the missing number is 10, and the sequence involves adding 5 to each number to get the next number. The sequences always increase from LEFT to RIGHT and from TOP to BOTTOM. See if you can figure out each sequence and fill in all the missing numbers.

Solution is on page 61.



MARCHING ORDERS

Using a different two-step sequence of subtraction and then addition, can you make your way from Start to Finish in each puzzle below? We've started the first one; you can see that the second number is two less than the first (-2) and the third number is five more than the second (+5). Use this two-step sequence to reach Finish. On your way, you will not cross your own path or pass through any square twice.

Solutions are on page 61.

1.

FINISH

18	11	17	28	36	34
13	16	14	20	31	29
8	1	9	19	24	26
9	10	5	17	18	28
1	2	7	22	20	23
4	3	6	8	27	25

START

2.

FINISH

11	12	20	17	25	21
10	17	13	19	22	20
18	9	19	18	14	11
8	15	16	13	10	12
10	7	4	11	8	9
6	5	8	7	10	11

START

3.

FINISH

8	11	7	5	8	13
10	12	9	12	10	21
7	5	8	4	6	12
9	6	3	5	11	5
2	4	9	10	7	6
5	3	6	4	5	9

START

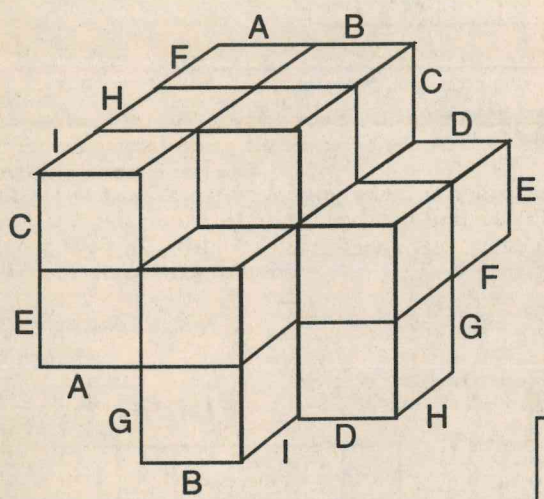
MAGIC NUMBER SQUARE

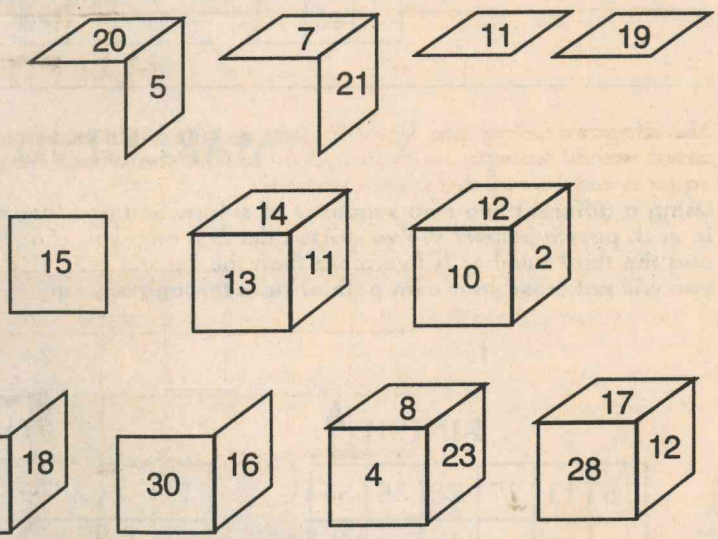
To solve, place numbers into the diagram in such a way that the numbers in the following groups add up to 100: 1. each row; 2. each column; 3. both diagonals; 4. the four center squares; 5. the four corner squares; 6. each corner quarter of the diagram. A number will be used only once. **Solution is on page 61.**

20		14	28
	36		
26			18

ON THE SURFACE

You'll need both mathematical and spatial skills to solve this one! Fit the pieces on the right into the diagram on the left so that the numbers on the surfaces of each lettered row (from A to A, B to B, etc.) add up to the target number, which in this case is 72. Do not rotate the pieces or attempt to fit a piece into a section of the diagram that does not match the piece exactly. For example, the single panel at the bottom of row A in the diagram can only be covered by the single panel with the number 15; this means that row A and row E, which crosses it at that panel, both contain the number 15. Use the target number and logic to figure out which other panels belong in each of those rows; and continue in the same manner until all the pieces have been placed. **Solution is on page 61.**





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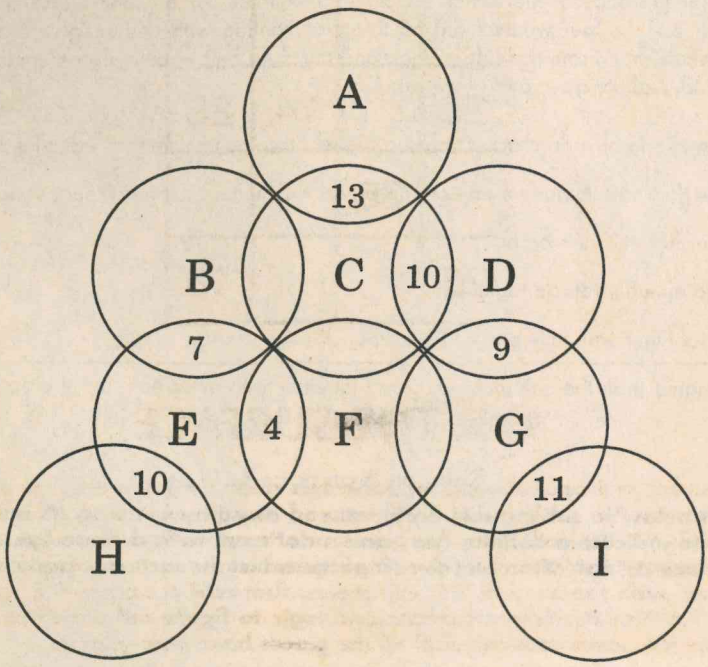
For ordering information, turn to page 21.

CIRCLE MATH

The diagram below is composed of nine overlapping circles, each identified by a letter. Each letter has a different number value from 1 through 9. Where some circles overlap, there is a number: This number is the SUM of the values of the letters in the overlapping circles. Can you figure out the correct number value for each letter?

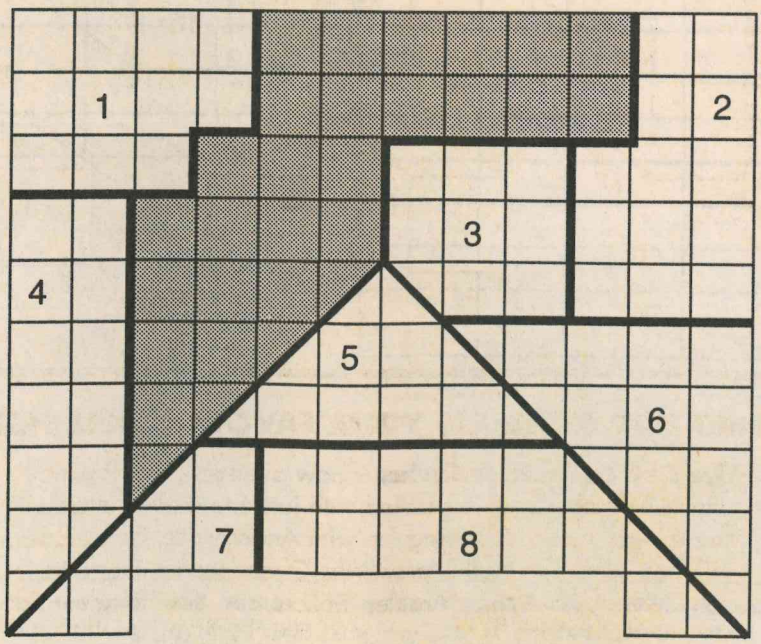
Solution is on page 61.



HALF TIME

The diagram below has been broken up into eight numbered areas separated by heavy lines. Which numbered areas would have to be pencilled in so that the whole diagram will be half white and half gray? Any two half-squares can be counted as one square.

Answer is on page 66.



LOGIC PROBLEM

1. EDIBLE ENGINEERING

by Mary Marks Cezus

The challenge was met and the victory was sweet — for everyone involved, literally! High-school students in the beginning engineering class recently had a project assignment to create rolling vehicles out of sweets or other edibles. One of the four top prize winners chose to use graham crackers for the body of the vehicle, and the other three prize winners also chose different food items for the bodies of their vehicles. In addition, the four winners did much experimenting with edible "glue," and each chose a different substance to hold his or her vehicle together. From this information and the clues below, can you determine for each winner's vehicle, the type of food item used for the body, edible glue, and place won?

1. The vehicle that had its body made of soda crackers placed higher than the vehicle that was glued together with peanut butter.
2. The glue used on the vehicle that had its body made of pita bread was neither icing nor peanut butter.
3. Christy didn't use cookies for her vehicle's body.
4. Ryan didn't use marzipan to glue his vehicle together.
5. The vehicle that was glued together with jelly placed lower than Jacob's vehicle.
6. Marcella's vehicle placed higher than the one that was glued together with marzipan, but it placed lower than the one that had a body of pita bread.

Solution is on page 62.

If you care to use the chart below in solving this Problem, you do so by entering all information obtained from the clues using, perhaps, an X to indicate a definite "no" and a dot to show a definite "yes." Remember: Once you enter a definite "yes" (dot), place a "no" (X) in all the rest of the boxes in each row and column that contains the dot.

	cookies	graham crackers	pita bread	soda crackers	icing	jelly	marzipan	peanut butter	1	2	3	4
Christy												
Jacob												
Marcella												
Ryan												
1												
2												
3												
4												
icing												
jelly												
marzipan												
peanut butter												

If you wish to learn more about the use of Logic Problem charts and how they can assist you, send for a free leaflet of easy-to-follow instructions, "Solving Logic Problems, Step by Step." Mail to Dell Math Puzzles and Logic Problems, Dept. L.P., Dell Magazines Direct, 6 Prowitt St., Norwalk, CT 06855-1220. Please enclose a stamped, self-addressed envelope (long-letter size, please).

FIGURE LOGIC 1

Solve Figure Logic by completing some simple arithmetic problems, which will enable you to move from clue to clue through the puzzle. You will not always be able to complete an entire number at first, but you may be able, by logic, to determine what one or more of the digits must be. If you enter those digits into the diagram, they may help you to solve other clues, and you can eventually return to the unfinished numbers and finally complete them.
NOTE: A square of a number is that number multiplied by itself.

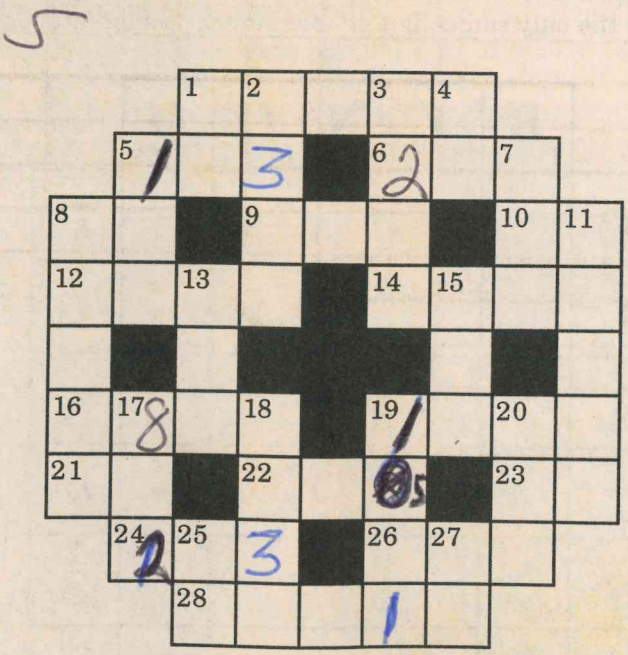
As a starting help, the answer to 4-Down is given on page 66.

ACROSS

1. 6-Across squared
5. Three times 1-Down
6. One-fourth of 17-Down
8. Two times 25-Down
9. 13-Down minus 23-Across
10. Two times 8-Across
12. Four times 22-Across plus 14-Across
14. 23-Across times 26-Across
16. 21-Across times 22-Across
19. Its digits total eleven
21. One-half of 4-Down
22. Five times 23-Across
23. One-eighth of 5-Across
24. Fifty more than 5-Across
26. Four times 27-Down
28. 8-Down plus 11-Down

DOWN

1. Sum of 21-Across and 27-Down divided by two
2. 8-Across times 26-Across
3. 27-Down squared
4. 1-Down plus 8-Across
5. Two times 4-Down
7. Four times 4-Down
8. 5-Down squared
11. 1-Across plus 19-Across
13. 21-Across times 25-Down
15. 23-Across squared
17. Two hundred less than 19-Across
18. Ten less than 16-Across plus 26-Across
19. Seven times 24-Across
20. 9-Across minus two times 10-Across
25. Two less than 23-Across
27. Digits of 1-Down reversed



Solution is on page 60

BINGO PLAYS 1

In this puzzle, you are trying to fill your "card" with numbers and make a winning Bingo game. Just as in Bingo, each column has limits set for the numbers that can be placed in that column, as shown at the top of the card. For example, in column B, every square will have a number between 1 and 15 inclusive; in column N, every number will be between 31 and 45 inclusive. Use the given clues to eliminate possibilities within those limits until you can enter one final number in each square. A number will appear only once in any column. The "free" space in the center of the card is just that; you need not enter a number in that square. After you have filled in your card, find the Bingo winning combination: Just as in Bingo, the numbers in one row, column, or diagonal will fit the clues given. Circle these numbers and you have won the game!

1. The number one does not appear in row P or S, column N, or square LO, AI, AO, or YI.
2. The number two does not appear on the card as a single-digit number, nor does it appear in row L, column O, or square PI, PN, AG, YN, or YG.
3. The number three does not appear in row S, column B or O, or square AI, YI, or YG.
4. The number four does not appear in row Y, square PN, PG, PO, LB, LN, LG, AB, AI, AG, SI, or SO, or in the winning combination.
5. The number five does not appear in column N, square PB, PG, LB, LO, AI, YB, YI, SI, SG, or SO, or in the winning combination.
6. The number six does not appear on the card as a single-digit number, nor does it appear in row A or square LG, LO, YI, YG, SI, or SG.
7. The number seven does not appear on the card as a single-digit number, nor does it appear in row Y, column I or N, or square AG.
8. The number eight does not appear on the card as a single-digit number, nor does it appear in row S, column G, or square PO, LI, LN, AI, or YO.
9. The number nine does not appear on the card as a single-digit number, nor does it appear in row P, column I or G, or square LN, YO, or SO.
10. Zero does not appear in column O or square LB, LG, AB, AG, YB, YG, SI, or SN.
11. The number 22 is the only same-digit double-number combination on the card.

	B 1 - 15	I 16 - 30	N 31 - 45	G 46 - 60	O 61 - 75	
P						P
L						L
A			FREE			A
Y						Y
S						S
	B	I	N	G	O	

Solution is on page 60

WORD ARITHMETIC

These are long-division problems in which letters are substituted for numbers. Solve the problem; determine the number value of each letter; and, when the letters in each one have been arranged in order from 0 to 9, they will spell out a word or words.

Answers are on page 66.

1.

0 1 2 3 4 5 6 7 8 9

```
          A L I
      ---------
E O N | A L P I N E
        E O N
        -----
        L L E N
        A E N M
        -------
          I N R E
          L E L L
          -------
            D N O
```

2.

0 1 2 3 4 5 6 7 8 9

```
            E T A
        -----------
T H E Y | S H A B B Y
          T H E Y
          -------
          A B B Y B
          E O O S B
          ---------
            E E P B Y
            P T U B
            -------
              A T H Y
```

3.

0 1 2 3 4 5 6 7 8 9

```
            H E R
        -----------
S I T | R O A D S
        S I T
        -----
        E E A D
        H V E T
        -------
          S H D S
          I O D T
          -------
            A T S
```

4.

0 1 2 3 4 5 6 7 8 9

```
              R A I L
          -------------
F A L L | T A C T F U L
          F A L L
          -------
          D R U F
          U G I U
          -------
          A G L I U
          A F C R U
          ---------
            A L U C L
            A U F C T
            ---------
              A F C T
```

5.

0 1 2 3 4 5 6 7 8 9

```
            T A R
        -----------
A D A | R E L A T E
        R A L U
        -------
          U B U T
          R S T E
          -------
            D N E
            A D A
            -----
              T S U
```

6.

BACONSTRIP

0 1 2 3 4 5 6 7 8 9

```
                  436
              -------
5376  | 2345376   N O T
S O R T | C O N S O R T
        2150 4
        C A S B N
        19497
        A P N P R
        16128
        A T A C I
        33696
        O O T P T
        32256
        O C C S T
        -------
          1440
          A N N B
```

7.

0 1 2 3 4 5 6 7 8 9

```
            A I D
        -----------
D A D | T I R A D E
        T W I L
        -------
          A D A D
          A W R I
          -------
            R L I E
            T N T D
            -------
              O A O
```

8.

0 1 2 3 4 5 6 7 8 9

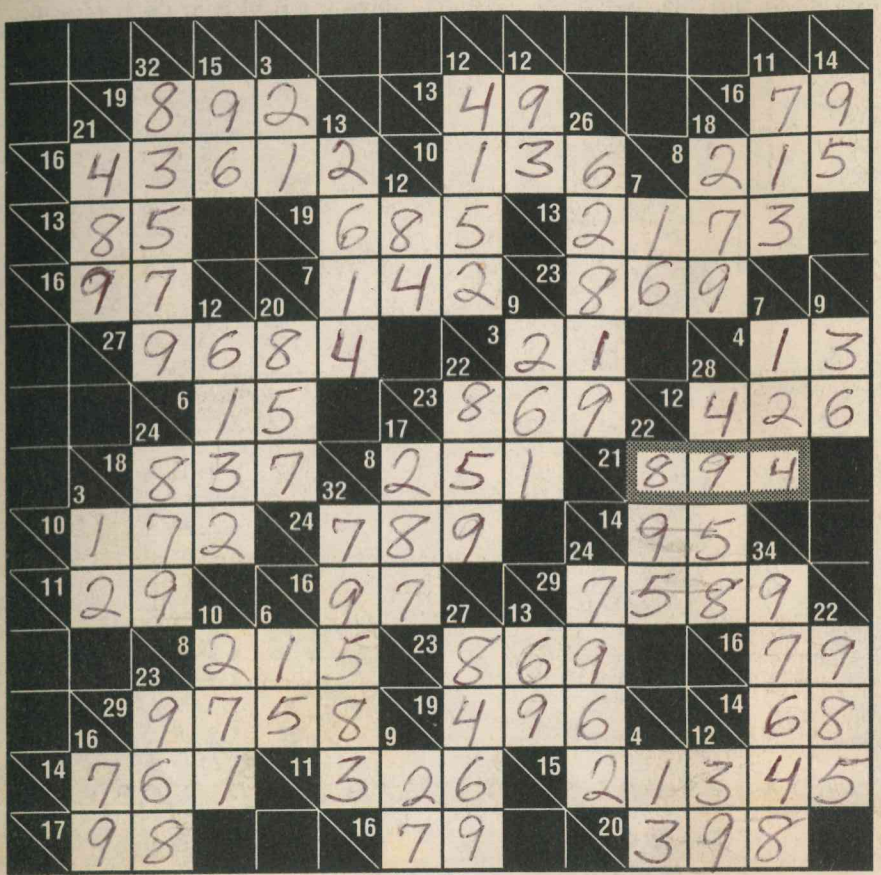
```
              I N
          -------------
L A S S | S A T I N
          L A S S
          -------
          I S T N N
          I U Y S M
          ---------
            Y A N Q
```

9.

0 1 2 3 4 5 6 7 8 9

```
            T O
        -----------
G L O B | N O R T H
          W H L L
          -------
          I T R T H
          I T B G B
          ---------
            I I W
```

CROSS SUMS

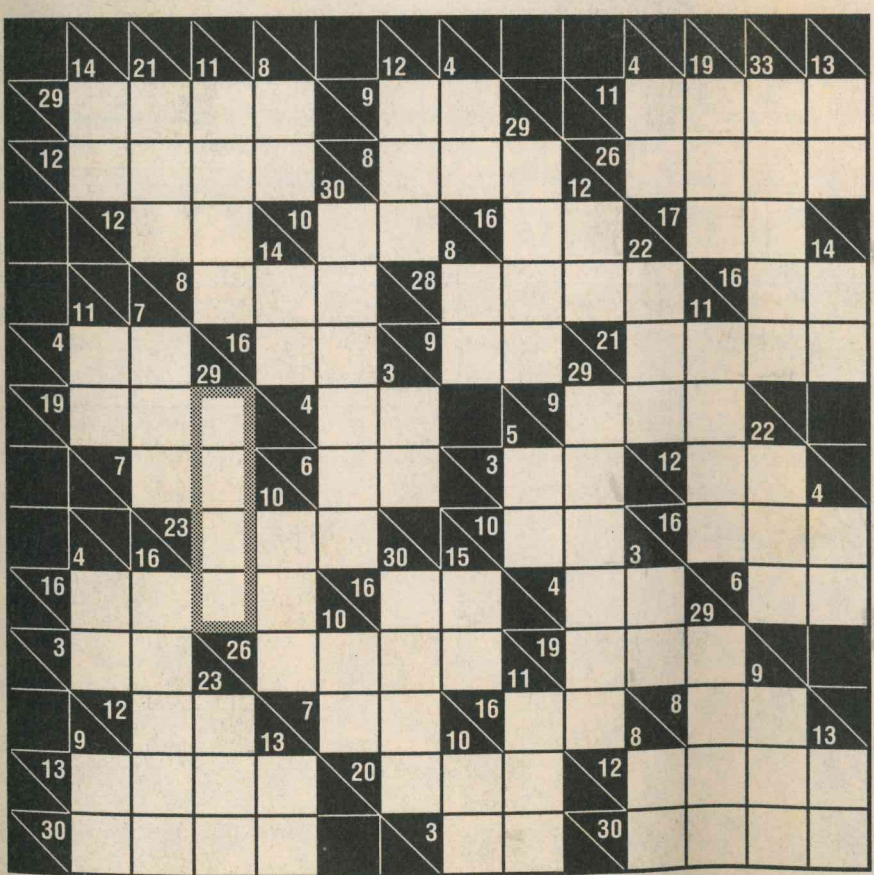


NUMBER 1

In these puzzles, the numbers in the black squares refer to the SUMS of the digits that you are to fill into the empty spaces. The number ABOVE the diagonal line refers to the empty spaces directly to the RIGHT of that number. A number BELOW the diagonal line refers to the empty spaces directly BELOW that number.

No zeros are used here, only the digits one through nine. An important point: A digit cannot appear more than once in any particular digit combination. We have outlined one area in each diagram. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Solutions are on page 59.



NUMBER 2

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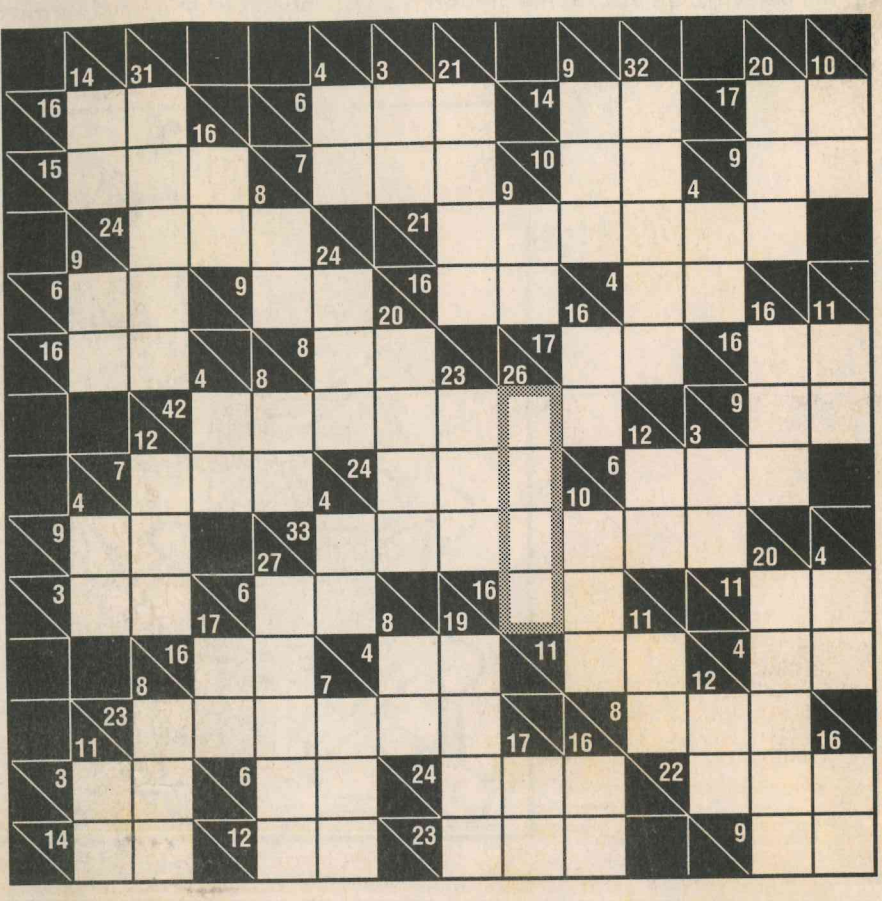
CROSS SUMS

NUMBER 3

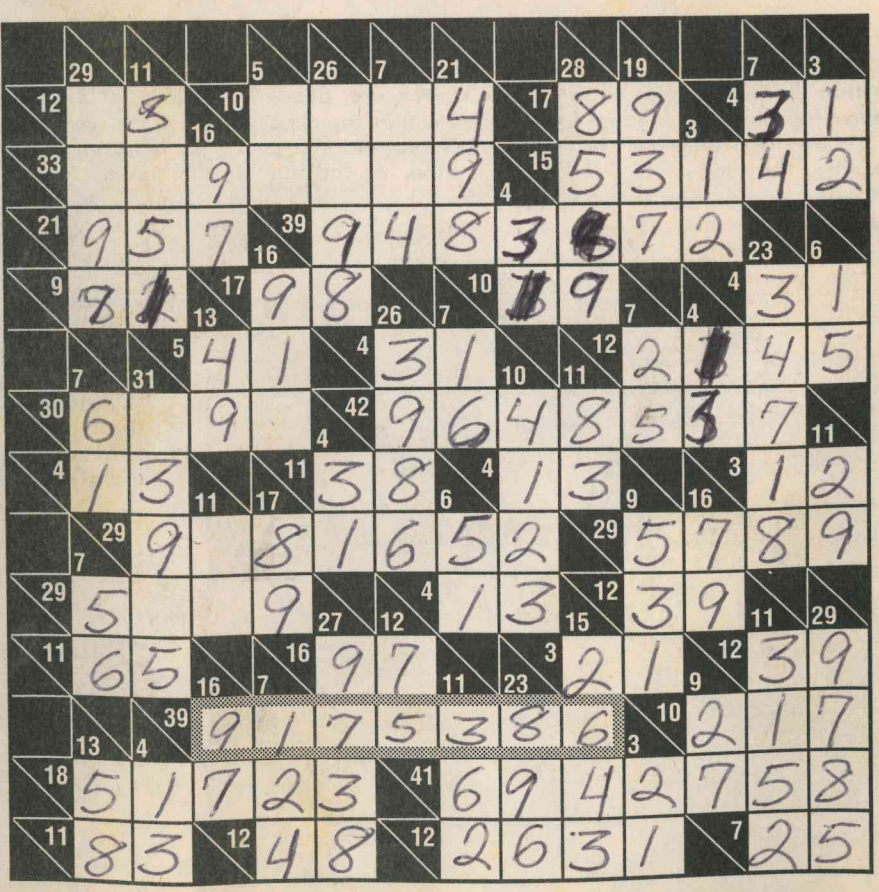


Starting helps are on page 66.

Solutions are on page 59.

NUMBER 4

New Orleans?



MYSTERIOUS FOOTPRINTS

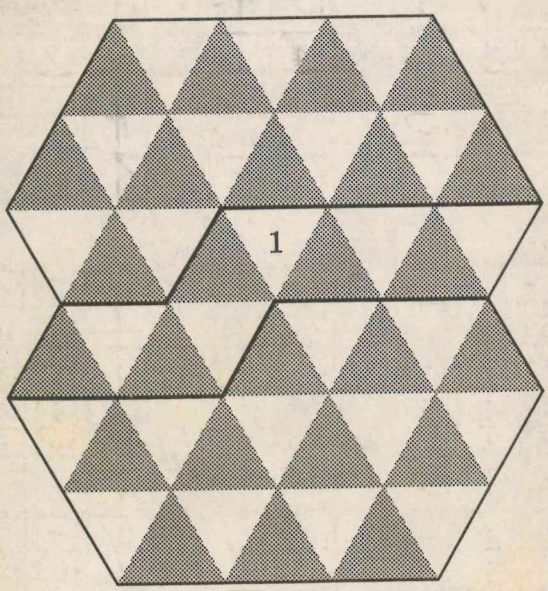
Help the detective by trailing the mysterious "42" bandit from the detective to the exit arrow in such a way that the numbers in the footprints you "walk in" add up to exactly 42.

Our solution is on page 61.

TRACE ELEMENTS

Within the boundaries of the shape on the left, draw the outlines of the seven figures described below. Do this by following the lines formed by the tiles within the shape. The figures you draw may be odd shapes — for example, a 6-sided figure doesn't have to be a hexagon. When you've finished, the seven figures should fill the large shape exactly; they may not overlap each other or fall outside the boundaries of the shape. We've started you off by showing you where Shape #1 is located.

Solution is on page 61.

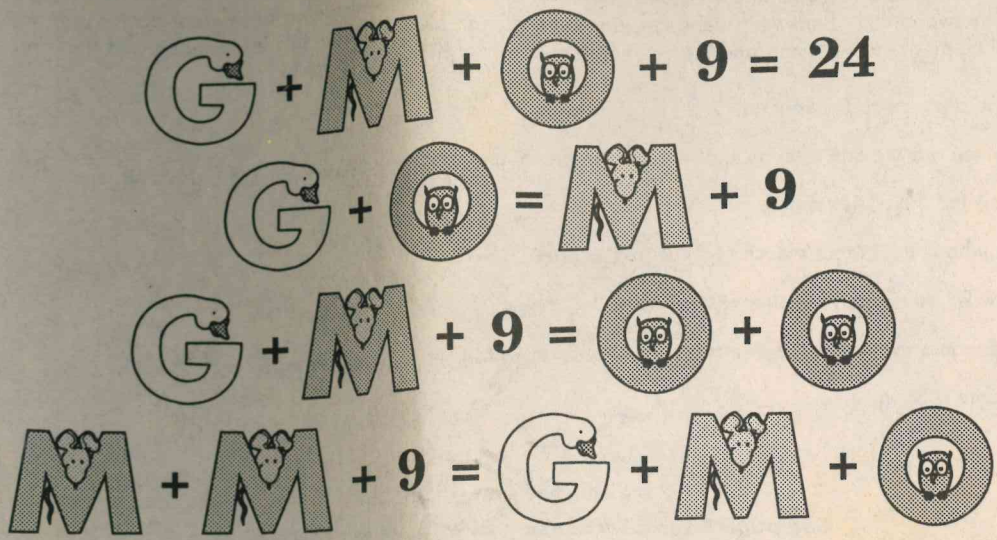


1. Figure 1 is an 8-sided figure enclosing 10 tiles.
2. Figure 2 is a 5-sided figure enclosing 7 tiles.
3. Figure 3 is a 3-sided figure enclosing 4 tiles.
4. Figure 4 is a 4-sided figure enclosing 6 tiles. It has no tiles in the top row.
5. Figure 5 is a 4-sided figure enclosing 8 tiles.
6. Figure 6 is a 3-sided figure enclosing 9 tiles.
7. Figure 7 is a 4-sided figure enclosing 6 tiles.

ANIMAL ADDITION

Each of the three letters, G, M, and O, in the set of addition problems below stands for a different number. Can you solve the problems and determine the number each represents? Each letter stands for the same number throughout the set.

Solution is on page 61.



NUMBER PLACE

In these puzzles, your job is to place a number into each box so that each row across, each column down, and each small 9-box square within the larger square (there are 9 of these) will contain each number 1 through 9. Remember that no number may appear more than once in any row, column, or 9-box square; this will help you solve the puzzle.

Solutions are on page 60.

1.

		5	9		4	2		6
4	3			5			9	8
	7	9		3	6		1	
5	8				9			7
		4	2		7	3	8	
1		7	3	8		6		
	5	1	4			8		2
3			7	6			5	1
6	9			2	1	4		

2.

2		6		9			4	7
	7	8		4	5			1
4			8		7	3	6	
7		4	9			6		2
	1	9	2		6			3
	8			3	4	1	5	
	2	5		7		9	3	
9			5		2		1	8
8	6		3	1		5		

3.

	4	6		1	3			8
3		2		5			6	7
	1		8		7	3	4	
9	6			2	1	8		
		7	3	4			9	5
4		8	9			2		1
6	7			9	2	5		
	3	5	6				1	9
8			7		5	4	2	

4.

2	8		6			1		9
		1	8		2		3	5
4		7		1	5	6		
6	2			5		4	9	
	9	4		2	8			3
		3	4		6		7	8
3			7	8		9	5	
	7	9		6	1	3		
5	4		2				1	7

5.

5	8	6	4	1	9	2	7	3
2	3	1	7	5	6	4	8	9
7	4	9	2	8	3	6	5	1
6	7	2	1	9	5	8	3	4
1	9	4	8	3	2	7	6	5
8	5	3	6	4	7	1	9	2
4	1	7	5	2	8	9	3	6
9	2	5	3	6	1	5	4	7
3	6	8	9	7	4	5		8

6.

9			2	3		7		
		3			7		1	9
	8	7	5					2
4	2			7		1		
1			3			8		6
		9		8	5		7	
	1				3	9	2	
5		4		2				1
	3		9		6		8	

LOGIC PROBLEM

2. CARED-FOR FRIENDS

by Tara Lynn Fulton

Just last week, Bill ran into four of his very good friends in the waiting room of the local medical center. It just so happened that all five of the friends' appointments coincided with one another's, although each was seeing a different doctor (one was Dr. Sweet). Of course, each of the five doctors had a different specialty (one was an allergist). From this information and the clues below, can you determine the full name of each patient, and the name and specialty of his or her doctor?

1. Mark Leeson did not go to Dr. Pauling.
2. The three women are the one who visited Dr. MacNeil, Ms. Fisher, and the one who saw the plastic surgeon.
3. Ms. Gibson visited the obstetrician.
4. The internist, who is not French's doctor, is not Dr. Dennison.
5. A woman saw Dr. Anderson, but she was not Josie.
6. Sue is not the woman who saw the primary-care physician, who is not Dr. Dennison.
7. Patty's last name is Stein.

Solution is on page 62.

See page 8 for directions on how to use the solving chart.

		Fisher	French	Gibson	Leeson	Stein	Doctors: Anderson	Dennison	MacNeil	Pauling	Sweet	aller.	intern.	obste-trician	plastic surg.	pri. phys.
	Bill															
	Josie															
	Mark															
	Patty															
	Sue															
	allergist															
	internist															
	obste-trician															
	plastic surgeon															
	primary physician															
Doctors	Anderson															
	Dennison															
	MacNeil															
	Pauling															
	Sweet															

Kristin Wilson
'It's All Right'
English Pub, Eh?
R & D Records

LOGIC PROBLEM

3. MERGER, THEY WROTE

by David Champlin

Last month, Business Watcher Weekly magazine reported that Cathy and three other enterprising young entrepreneurs had just become millionaires when the small company each had founded merged with a different giant, multinational corporation. Each merger was announced in a different week's issue. From this information and the clues below, can you determine for each young millionaire, his or her original company, the multinational corporation with which he or she merged, and the order in which the four mergers were announced?

1. The deal involving the Komic Kard Company was announced sometime before the one involving the company founded by Peter, which was announced the week before the deal negotiated with the Supergroup Corporation.
2. Ellen isn't the founder of either the Heavenly Healthfoods Company or the company that merged with Biggco Corporation.
3. The four mergers were, in some order: the one involving the company founded by Sam, the one involving the Glimmer Toothpaste Company, the one involving Conglomerinc Corporation, and the last one to be announced.
4. The man who founded the Best Foot Forward Shoe Company (who wasn't mentioned in the second week's issue) has never had any dealings with either Conglomerinc or the Teknomix Corporation.
5. The mergers involving Ellen's company and Sam's company were not announced in consecutive issues.

Solution is on page 62.

See page 8 for directions on how to use the solving chart.

	Best Foot	Glimmer Toothp.	Heavenly Health.	Komic Kard	Biggco	Conglom.	Super.	Tekno.	1	2	3	4
Cathy												
Ellen												
Peter												
Sam												
1												
2												
3												
4												
Biggco												
Conglom-erinc												
Super-group												
Tekno-mix												

WORD ARITHMETIC

Solving directions are on page 11. Answers are on page 66.

10.

0 1 2 3 4 5 6 7 8 9

```
          FOBS
SEED | DECODED
       DTTE
         TFDE
        SEED
        FSODD
       BDCCA
         SCSU
```

11. BROADHINTS

0 1 2 3 4 5 6 7 8 9

```
          95314
          SHARD
8538  | 813766827
THAT  | TRANSITOR
      | 76842
        NITDO
        45396
        DHANI
        42890
        DOISB
        26566 8
        OITII
        25814
        OHIRD
        12542
        ROHDO
         8538
         THAT
        40041
        DBBDR
        34152
        ADRHO
         5889
         HTTS
```

12. FABRICDYES

0 1 2 3 4 5 6 7 8 9

```
          31644
          RADII
2179  | 6899523428
BAYS  | DESCRIBE
      | 65337
        DCRY
        35833
        RCEB
        21779
        BAYS
        14044
        AIFII
        13074
        ARFYI
         9702
         SYFB
         8716
         EYAD
         2868
         SEDE
         8716
         EYAD
         1152
         AACB
```

13.

0 1 2 3 4 5 6 7 8 9

```
          AYE
SIP  | TEAMS
       NYS
       ISSM
       IHMY
         IMIS
       IATI
         ISI
```

14. MADEOFSILK

0 1 2 3 4 5 6 7 8 9

```
          385
          ELF
2183  | 841532
DALE  | LOAFED
      | 6549
        SFOK
        18663
        ALSSE
        17464
        AIOSO
        11992
        AAKKD
        10915
        AMKAF
         1077
         AMII
```

15.

0 1 2 3 4 5 6 7 8 9

```
          HOD
SUP  | CRISIS
       CICL
         OUSI
         SUP
         DIPS
       URPC
         SLH
```

16.

0 1 2 3 4 5 6 7 8 9

```
          AS
LOBS | TABLES
       TFOES
         ESTRS
       EEABF
         VOO
```

17.

0 1 2 3 4 5 6 7 8 9

```
          LO
LORE | PACER
       PECB
         ENBR
       LORE
         AHO
```

18.

0 1 2 3 4 5 6 7 8 9

```
          AT
DOTS | SEATS
       RHFH
         OOGSS
       OGEST
         FGA
```

FIGURE LOGICS 2 & 3

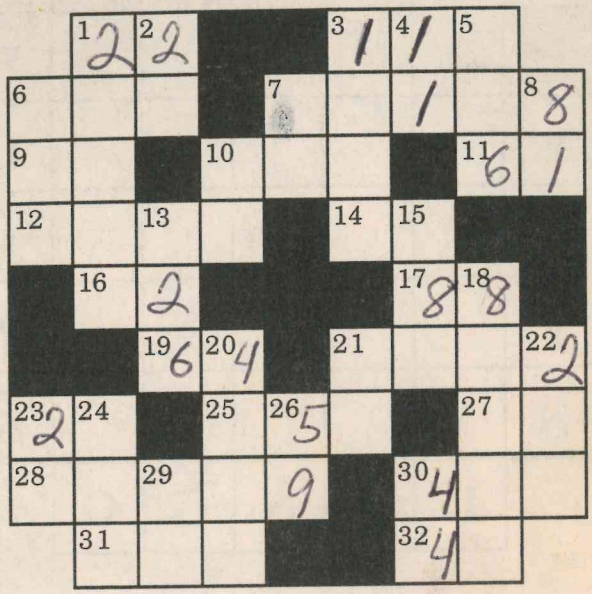
Directions for solving Figure Logics are on page 9.
If you need help starting these puzzles, starting helps are given on page 66.

ACROSS

1. One-half of 30-Down
3. One-half of 22-Down
6. 16-Across times 2-Down
7. 11-Across times 3-Down
9. 32-Across plus 2-Down
10. Seven times 3-Across
11. Three less than 19-Across
12. 1-Across times 10-Down
14. 21-Down minus 23-Down
16. Digits of 2-Down reversed
17. Eight times 4-Down
19. Twenty more than 30-Down
21. 16-Across times 19-Across
23. One-fifth of 10-Down
25. 6-Down plus 22-Down
27. Digits of 29-Down reversed
28. 32-Across times 20-Down
30. One-half of 13-Down
31. 23-Down times 29-Down
32. 27-Across minus 1-Across

DOWN

1. 12-Across times 2-Down
2. Seventy less than 10-Down
3. 17-Across times 23-Across
4. Five less than 23-Across
5. 25-Across plus 23-Down
6. 23-Across times 27-Across
7. 11-Across plus 29-Down
8. Seven less than 17-Across
10. Eight less than 7-Down
13. 12-Across minus 25-Across
15. 14-Across times 23-Across
18. 1-Across times 21-Across
20. 27-Across times 26-Down
21. Digits of 7-Down reversed
22. 21-Across minus 20-Down
23. One more than 2-Down
24. Twenty less than 6-Across
26. 8-Down minus 1-Across
29. One-half of 26-Down
30. Thirty more than 4-Down

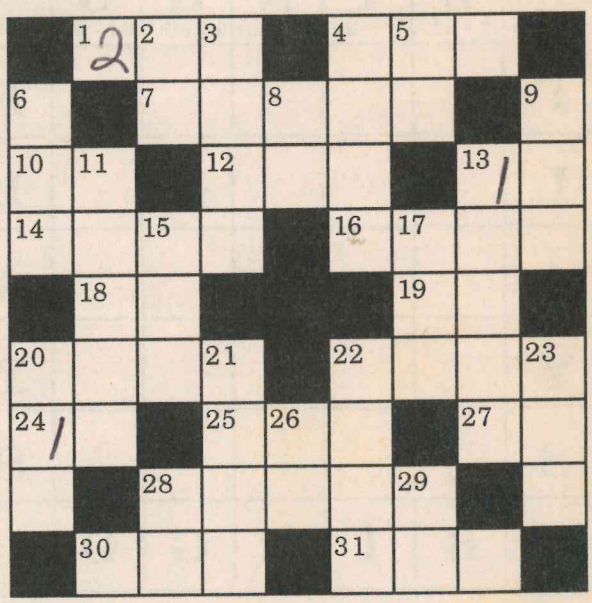


ACROSS

1. Two hundred more than 2-Down
4. 18-Across plus 19-Across
7. 20-Down squared
10. First two digits of 31-Across
12. Five times 4-Across
13. Last two digits of 20-Down
14. 2-Down squared
16. Seven times 20-Down
18. Two times 13-Across plus 27-Across
19. Seven times 13-Across
20. Six times 6-Down
22. 10-Across times 29-Down
24. 2-Down minus 29-Down
25. Two times 20-Down
27. Ten less than 29-Down minus 10-Across
28. 31-Across squared
30. Three times 31-Across
31. Three times 18-Across

DOWN

2. Its first digit is twice its second digit
3. 13-Across times 23-Down
4. Three times 6-Down
5. One-half of 18-Across
6. Three times 4-Across
8. 19-Across minus 10-Across
9. See 6-Down
11. 1-Across squared
13. Twelve times 16-Across
15. Thirteen times 27-Across
17. Eight times 8-Down
20. Its digits total four
21. Two times 22-Across
22. 4-Down plus 27-Across
23. 9-Down minus 13-Across
26. Middle two digits of 4-Down
28. Four more than 5-Down
29. Six more than 18-Across



Solutions are on page 60

BINGO PLAYS 2 & 3

Directions for solving Bingo Plays are on page 10.

	B 1 - 15	I 16 - 30	N 31 - 45	G 46 - 60	O 61 - 75	
P						P
L						L
A			FREE			A
Y						Y
S						S
	B	I	N	G	O	

1. The number one does not appear on the card as a single-digit number, nor does it appear in column G or O or square PB, LB, LN, YI, or SI.
2. The number two does not appear in row P or S, column B or O, or square LG or YN.
3. The number three does not appear in row L, column G, or square AB, AO, YB, or YO.
4. The number four does not appear on the card as a single-digit number, nor does it appear in row Y or S, column I or O, or square PN, LG, or AG.
5. The number five does not appear in row P or S, column B, I, or N, or square YO.
6. The number six does not appear on the card as a single-digit number, nor does it appear in row Y, column I, or square PN, PG, LG, AG, or SO.
7. The number seven does not appear in column I or G, square PN, PO, LO, or AO, or in the winning combination.
8. The number eight does not appear on the card as a single-digit number, nor does it appear in row L or Y, column N, square AI or AG, or in the winning combination.
9. The number nine does not appear on the card as a single-digit number, nor does it appear in row P, L, or A, or column N.
10. Zero does not appear in square LI, LN, AB, AI, YB, YI, or SB.
11. The number 11 is the only same-digit double-number combination on the card.

	B 1 - 15	I 16 - 30	N 31 - 45	G 46 - 60	O 61 - 75	
P						P
L						L
A			FREE			A
Y						Y
S						S
	B	I	N	G	O	

1. The number one does not appear on the card as a single-digit number, nor does it appear in row L or A, column O, square PG, YB, SN, or SG, or in the winning combination.
2. The number two does not appear in row S, column N or O, square PB, PG, LG, AG, or YB.
3. The number three does not appear in row L or A, column B, I, or O, or square PG, YN, or SG.
4. The number four does not appear in row P, column O, or square AI, YI, or SN.
5. The number five does not appear in column B or square PI, PN, PO, LI, LN, LO, AI, YI, YG, or SN.
6. The number six does not appear on the card as a single-digit number, nor does it appear in column I, square PO or SG, or in the winning combination.
7. The number seven does not appear in row L or S, column I or G, or square PB, PN, or YB.
8. The number eight does not appear in column I or O or square PN, PG, LG, SN, or SG.
9. The number nine does not appear on the card as a single-digit number, nor does it appear in row P, column G, or square AI or SN.
10. Zero does not appear in column I or G or square PB or SB.
11. The number 22 is the only same-digit double-number combination on the card.

Solutions are on page 60

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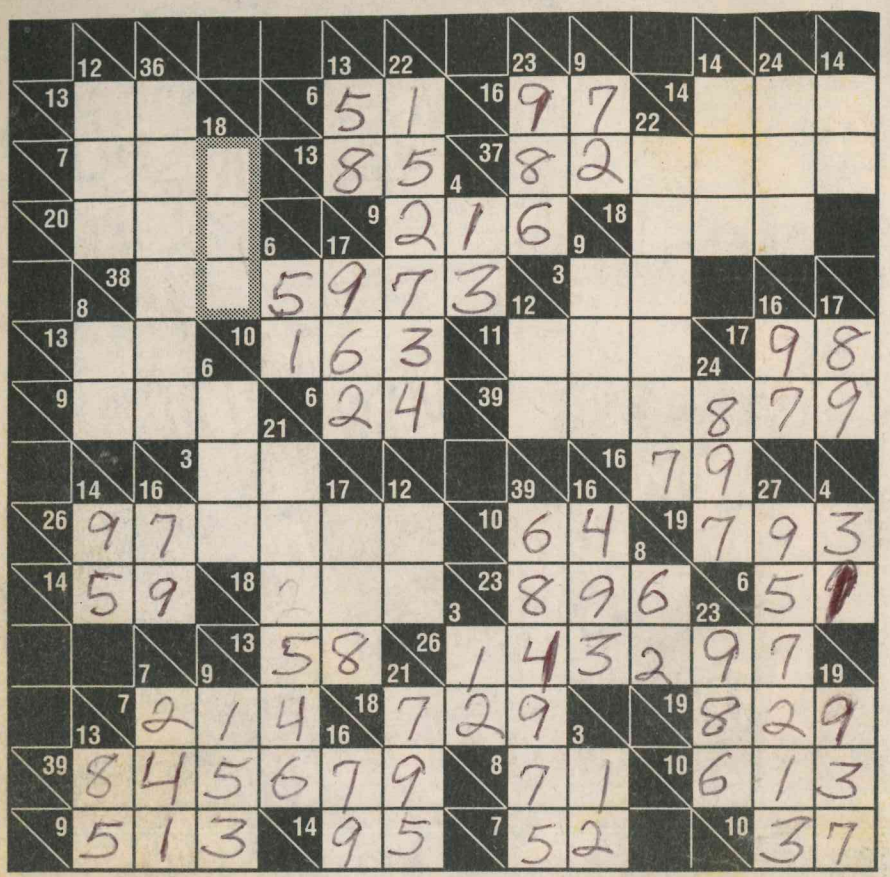
CROSS SUMS



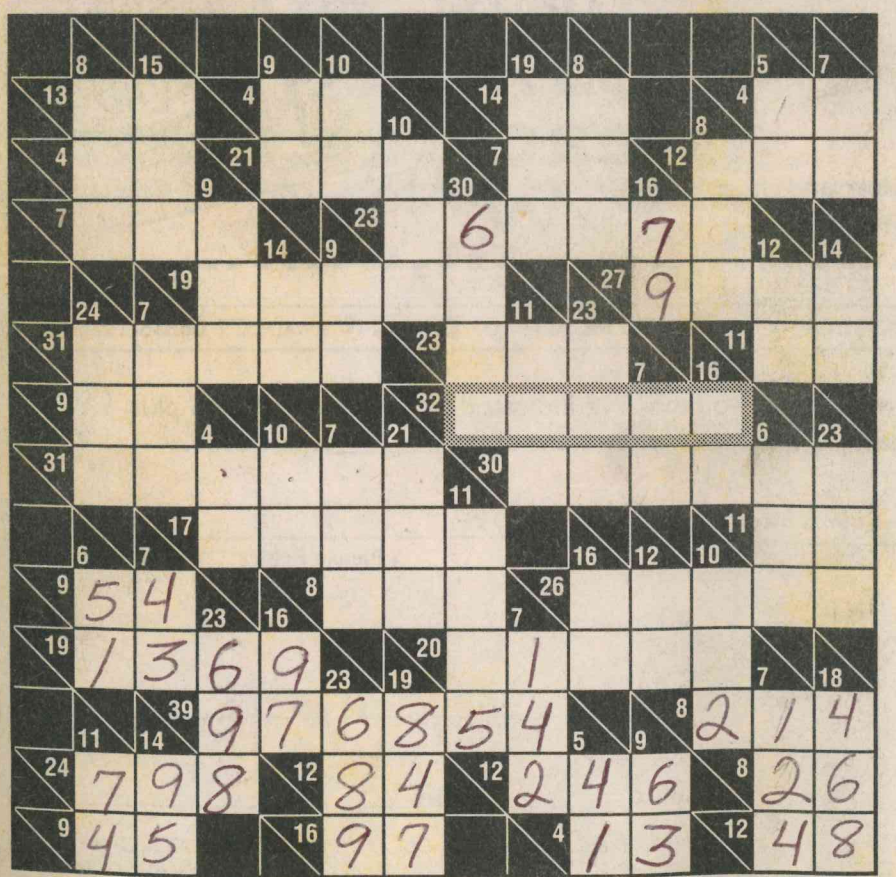
NUMBER 5

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Another LeeAnn Pimes?

Bridget Fonda is my new favourite?

Solutions are on page 59.



NUMBER 6

Yes, Eliza - it's on the next page!

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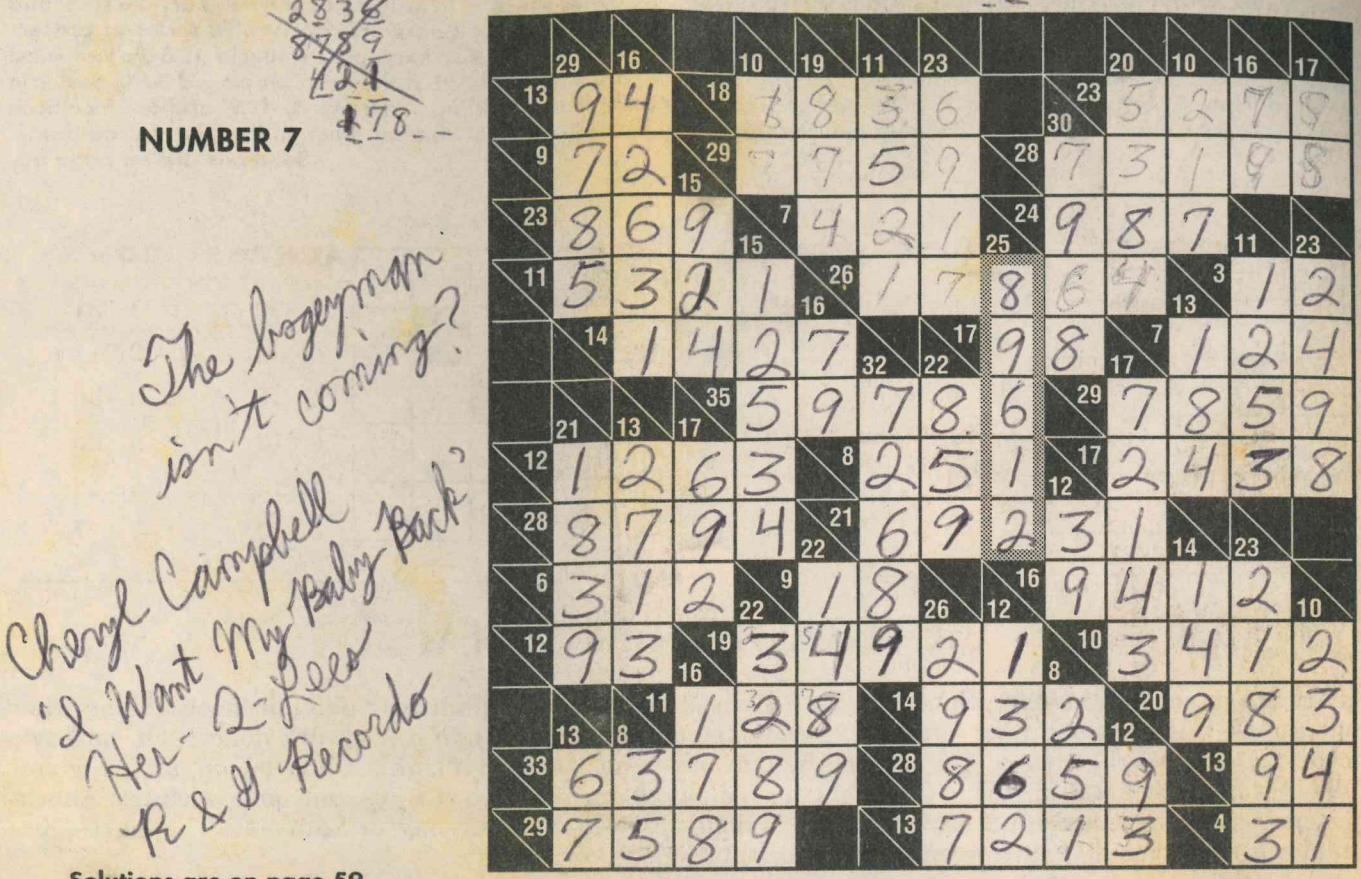
This is a game, LISA!

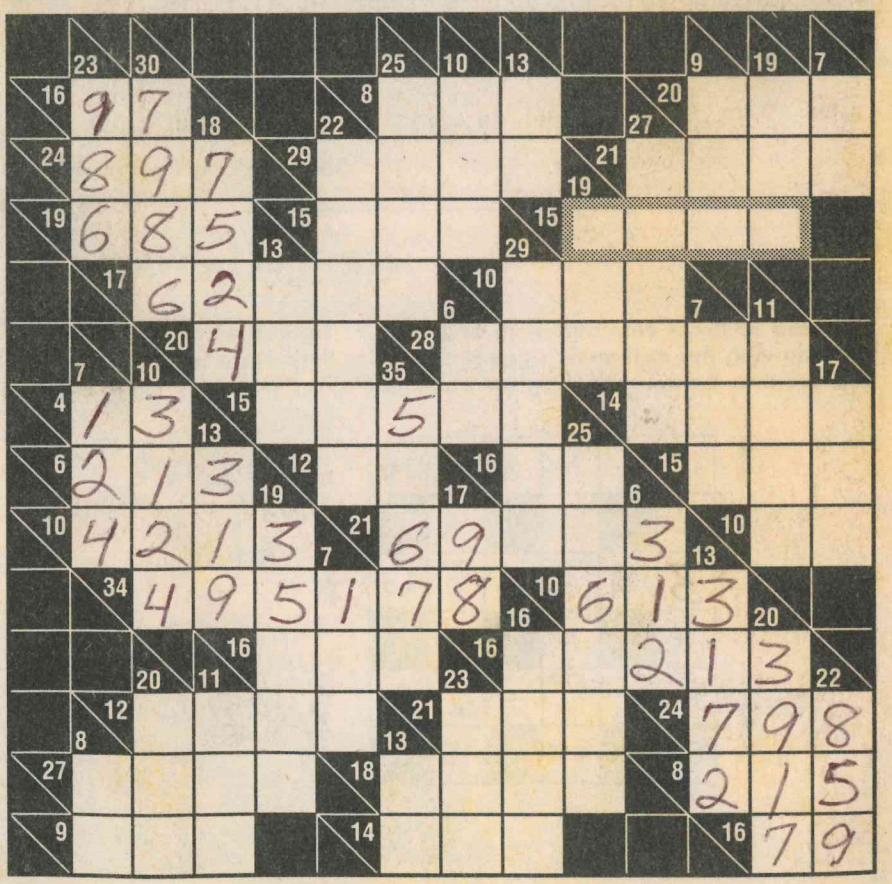
CROSS SUMS

NUMBER 7



Solutions are on page 59.

NUMBER 8

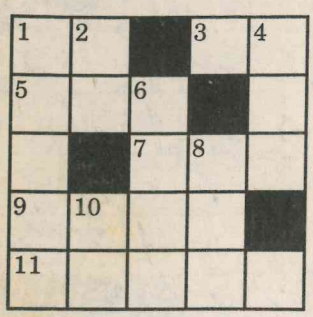


GRIDDIGITS

Griddigits are solved in crossword puzzle fashion using the numbers 1 – 9 instead of letters. Each Across and Down clue gives the sum of the digits of that answer. The trick here is that all answers consist of a series of consecutive numbers, although the numbers may be out of order in the answer. For example in puzzle 1, 5-Across must add up to 6. The three consecutive numbers that add up to 6 are 1, 2, and 3; but they can be placed 3, 1, and 2 in the diagram. 6-Down adds up to 18. The four consecutive numbers that add up to 18 are 3, 4, 5, and 6. Since both answers require a 3, and that is the only number they have in common, that number must go into the shared box.

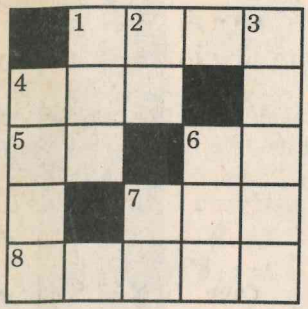
Solutions are on page 60.

1.



ACROSS	DOWN
1. 5	1. 15
3. 9	2. 5
5. 6	4. 18
7. 21	6. 18
9. 18	8. 21
11. 25	10. 11

2.



ACROSS	DOWN
1. 30	1. 21
4. 18	2. 11
5. 15	3. 30
6. 13	4. 26
7. 15	6. 18
8. 20	7. 7

DEDUCTION PROBLEM

Three high-school students, Sam, Hal, and John, did odd jobs around their neighborhood during their vacations this past summer. One week, two customers needed a half-day's work done each, and two other customers needed a full day each. One customer wanted furniture moved on any day but Wednesday. The customer who wanted his basement cleaned needed the job done on a weekday. Another customer wanted one full day of yardwork done on Tuesday, Thursday, or Saturday. The fourth customer ordered inside painting on any day except Monday or Tuesday.

Since all four customers lived on the same street, the boys formed a carpool on a day when all four jobs could be completed. On the way to work, John said, "I could have done both of my jobs the day before yesterday." Sam replied, "I could have done mine yesterday, but not Monday." Hal said nothing.

Which day did the boys work and which jobs did each boy do?

Solution is on page 66.

CROSS NUMBERS

The idea of Cross Numbers is to arrive at the figures given at the bottom and right-hand columns of the diagrams by following the arithmetic signs in the order they are given (that is, from left to right and top to bottom). Use only the numbers below each diagram to complete its blank squares.

Solutions are on page 60.

1.

16	÷	8	X	8	16
X		–		+	
3	X	6	–	5	13
+		X		+	
9	+	7	÷	2	8
57		14		15	

2 3 5 6 7 8 8 9

Cristina "You Belong in the Zoo" What Zoo? R & D Records

2.

15	+		÷		4
–		X		+	
	+		–		6
÷		+		–	
	+		÷		1
2		10		2	

1 3 4 5 5 6 7 8

OUT AND AROUND

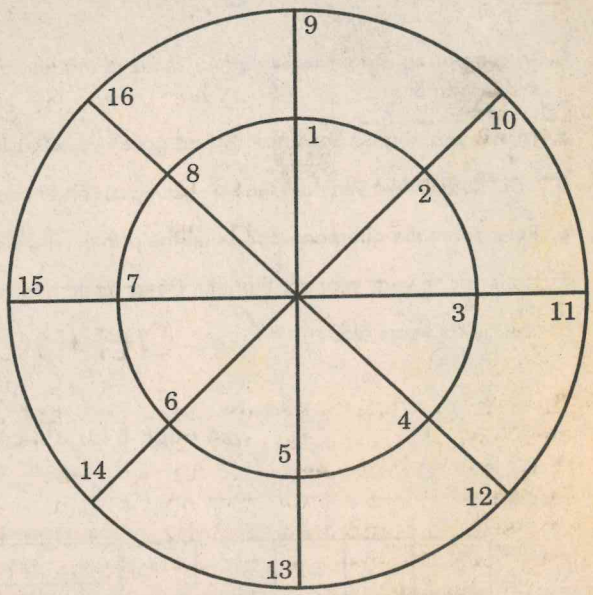
To solve this puzzle, fill in the diagram by answering the clues given below. In some instances, you will find that answering the clues requires some deduction and that it will be necessary to work back and forth among the clues in order to solve one. The puzzle works in two directions: The answer to each OUTWARD clue is a two-digit number to be entered outward from the center of the circle. For example, if the answer to OUTWARD clue 1-9 were 37, then you would enter a 3 in the space marked "1" and a 7 in the space marked "9." Each space in the diagram contains only one digit. The answer to each CLOCKWISE clue is a three-digit number to be entered in a clockwise direction. For example, if the answer to clue 1-3 were 579, then you would enter a 5 in the space marked "1," a 7 in the space marked "2," and a 9 in the space marked "3." Note that CLOCKWISE answers overlap. For instance, the last digit of the answer to clue 1-3 is the first digit of the answer to clue 3-5. NOTE: There are no zeros in this puzzle.

OUTWARD

1-9. A number that is evenly divisible only by 1 and itself.
2-10. A perfect square minus one. (A perfect square is the product of one number multiplied by itself. 16 is a perfect square because 4 x 4 = 16.)
3-11. Other clues will help you determine this number.
4-12. This number is the product of the three digits in the answer to Clockwise clue 7-1.
5-13. Two different digits, each evenly divisible by the same digit, which is greater than 1.
6-14. One of the digits is one less than the other.
7-15. A perfect square minus 2.
8-16. A perfect cube. (A perfect cube is the product of one number multiplied by itself, and then multiplying that product by that same number. 27 is a perfect cube because 3 x 3 = 9 x 3 = 27.)

CLOCKWISE

1-3. A perfect square.
3-5. Three consecutive digits in some order.
5-7. Three consecutive digits in reverse order.
7-1. Three consecutive even digits in some order.
9-11. Three consecutive digits in some order.
11-13. The third digit equals the second digit minus the first.
13-15. The third digit is the sum of the first and second digits.
15-9. Other clues will help you determine this number.



Solution is on page 60

SUM LOGIC 1 & 2

The object here is to place the numbers surrounding each diagram into its empty boxes in such a way that the five numbers in each row, each column, and each of the two diagonals add up to 62 in #1 and 95 in #2. Numbers cannot be repeated within a row, column, or diagonal. HANDICAP: Each number must be placed in one of the boxes of the row or column outside which it now appears.

Solutions are on page 60.

1.

	18	15	20	28	19	
9		14				4
17					11	5
4			13			8
19	5					3
5				6		16
	19	10	7	15	20	

2.

	23	30	28	41	15	
8		35				10
10					16	5
1			31			18
8	24					5
24				25		8
	22	15	23	20	30	

LOGIC PROBLEM

4. OFFICE PLAY-ATICS

by Susan Zivich

The recent "Take Your Child to Work" day was a big, big hit at the headquarters of The Crevass Clothing Company. Organized by the personnel department to give children a better sense of security about where Mom and Dad disappear to all day, one employee remarked, "It was a lot of fun, but when the CEO brought in treats for all the kids, mine thought I got that everyday, and was just too stubborn to share!" From the following information and snippets of conversations, can you determine for each of the five children, his or her full name, age, piece of office equipment he or she was allowed to operate, and the department he or she visited?

1. "My nine-year-old was the oldest one," the sales manager pointed out.
2. "Mine enjoyed playing with the computer all day," laughed the data entry clerk. "Mine spent the day at the copier," added Mrs. Taylor.
3. In comparing ages, the five adults realized that the accountant's child is one year younger than Mr. Mathis's child, and one year older than Shari.
4. Mrs. Lopez shared how the day had gone in purchasing. Emily's parent works in customer service.
5. Mrs. Kwan's five-year-old was the youngest, and none of the five children are the same age.
6. Peter spent the afternoon operating the printer. The eight-year-old sent everything out on the fax machine.
7. Katie is one year younger than the Gorski child and one year older than the child who ran the postage meter all afternoon.
8. Josh is six years old.

Solution is on page 62.

See page 8 for directions on how to use the solving chart.

	Gorski	Kwan	Lopez	Mathis	Taylor	age					computer	copier	fax	post. meter	printer	acctg.	cust. serv.	data entry	purch.	sales
Emily																				
Josh																				
Katie																				
Peter																				
Shari																				
acctg.																				
cust. serv.																				
data entry																				
purch.																				
sales																				
comp.																				
copier																				
fax																				
post. meter																				
printer																				

age						

WORD ARITHMETIC

Solving directions are on page 11. Answers are on page 66.

19. PRODUCTIVE

0 1 2 3 4 5 6 7 8 9

```
          149
        RUE
626 | 93756
TOT | EDICT
    626
    TOT
    3175
    DRRC
    2504
    OCPU
     6116
     TRRT
     5634
     CTDU
      482
      UVO
```

Sock dangling? My computer has SHOE DANGLING!

20. PUBLICROAD

0 1 2 3 4 5 6 7 8 9

```
          2839
        BALD
2819 | 8003819
BAUD | APPLAUD
     5638
     CRLA
     23658
     BLRCA
     22552
     BBCCB
      11061
      UUPRU
      8457
      AICO
      26049
      BRPID
      25371
      BCLOU
        678
        ROA
```

21. IDROVEABUS

0 1 2 3 4 5 6 7 8 9

```
          3829
        OURS
9015 | 345220 15
SIDE | OVERRIDE
     27045
     RBIVE
     74770
     BVBBI
     72120
     BRDRI
      26501
      RAEID
      18030
      DUIOI
       84715
       UVBDE
       81135
       UDDOE
        3580
        OEUI
```

22.

0 1 2 3 4 5 6 7 8 9

```
          LO
TILT | FUTILE
     FFIMJ
       MELE
       TILT
       YYJF
```

23.

0 1 2 3 4 5 6 7 8 9

```
          ERR
ARM | MAILER
    MMIR
      YCEE
      BYAM
       BROR
       BYAM
         BB
```

24.

0 1 2 3 4 5 6 7 8 9

```
          DAB
DAZES | KINDNESS
      KNDISA
        RIBKAS
        RKEKSD
          NSZRS
```

25. EIGHT

0 1 2 3 4 5 6 7 8 9

```
          1
        HID
00      0
DEED | TARGETS
     200
     TGEEX
     1
     IRRAT
     00
     DEED
     2
     ARAGS
     10
     AIEDH
       HARR
```

HRGA

26.

0 1 2 3 4 5 6 7 8 9

```
          PUN
DOG | POGROM
    MNDM
      URPO
      OUGN
       UNNM
       UUAM
         AUC
```

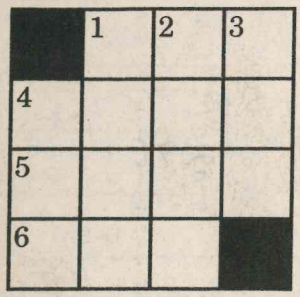
27.

0 1 2 3 4 5 6 7 8 9

```
          YEN
NET | HEARTS
    HWYE
      NIHT
      NSRA
       HIHS
       HHAH
         YR
```

GO FIGURE!

In Go Figure!, use the ACROSS and DOWN clues to determine which of the digits 1 through 9 belongs in each square in the diagram. Digits may be repeated within a number, and no zeros are used. **Solution is on page 60.**



ACROSS

1. Three consecutive digits in reverse (descending) order
4. Four consecutive digits in reverse (descending) order, such that none of the digits is the same as in the answer to 1-Across
5. The product of the first and second digits is a two-digit number whose left digit is the third digit of this answer, and whose right digit is the fourth digit of this answer
6. Other clues will help you determine this number

DOWN

1. The first digit is two more than the third digit, and the second digit is two more than the fourth
2. The sum of the first and second digits is a two-digit number whose left digit is the third digit of this answer, and whose right digit is the fourth digit of this answer
3. The first digit is the sum of the second and third digits
4. See 3-Down

BLACK MAGIC

Blacken in exactly ten of the empty squares in each grid below in such a way that each numbered square accurately indicates how many immediately adjacent squares are black. For example, a square containing "3" indicates that three and only three of the adjacent squares, moving horizontally, vertically, or diagonally, are black. It may be helpful to mark any square that you decide is not black with "0." **Solutions are on page 60.**

1.

		0		0		
	2				2	
	1		3		1	
0						0
			3			
2			2		2	1
	2		0		1	

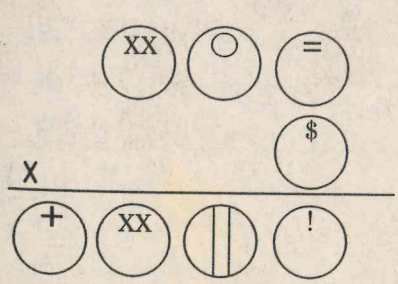
2.

		1		3		
						3
				3		
	3		5	4		
					2	

TWO-PART MATH

Each of the symbols in the two arithmetic problems below stands for one of the numbers 0 through 9, but no two symbols stand for the same number. Each symbol does stand for the same number through both problems, however, so if you were to place a "3" in the upper left circle in Problem A, you would also place a "3" in any other circle containing two x's. By working back and forth from one problem to the other, can you deduce the number represented by each symbol? **Solution is on page 66.**

A.



B.

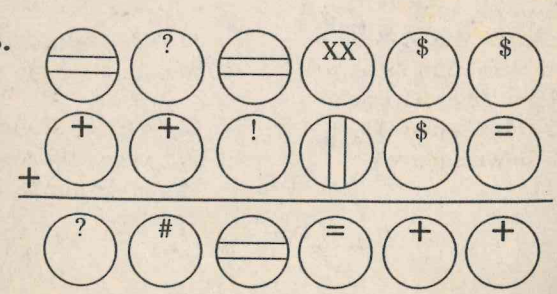


FIGURE LOGICS 4 & 5

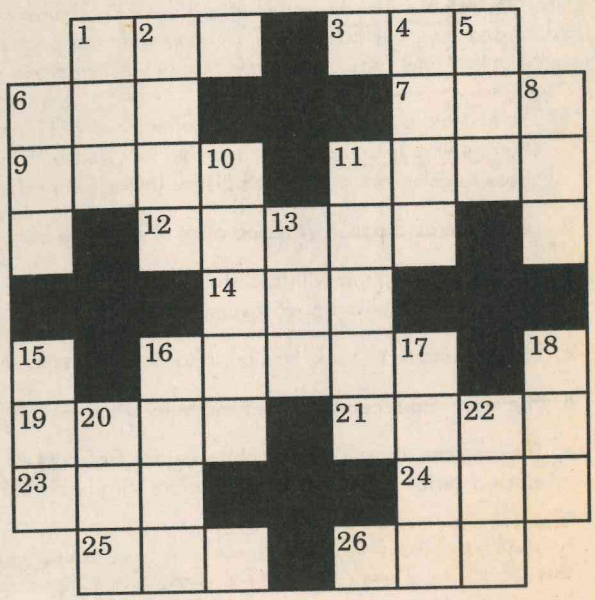
Directions for solving Figure Logics are on page 9.
If you need help starting these puzzles, starting helps are given on page 66.

ACROSS

1. Two times 5-Down
3. Five hundred less than 15-Down
6. Twenty less than 13-Down
7. Seven hundred more than 5-Down
9. Three times 16-Down
11. Five hundred less than 17-Down
12. Seven hundred less than 10-Down
14. 15-Down plus 18-Down
16. Two less than 11-Down
19. Eight hundred less than 4-Down
21. Two thousand less than 19-Across
23. Seven less than 25-Across
24. Eight less than 26-Across
25. 6-Across plus 13-Down
26. One less than 8-Down

DOWN

1. One hundred less than 24-Across
2. Six times 26-Across
4. Three more than 9-Across
5. Twenty less than 23-Across
6. One less than 3-Across
8. Four times 20-Down
10. Five times 21-Across
11. Three thousand less than 12-Across
13. Forty less than 6-Down
15. 1-Across plus 25-Across
16. Two more than 11-Across
17. Ten less than 2-Down
18. Twelve less than 6-Down
20. One more than 13-Down
22. Ninety more than 26-Across

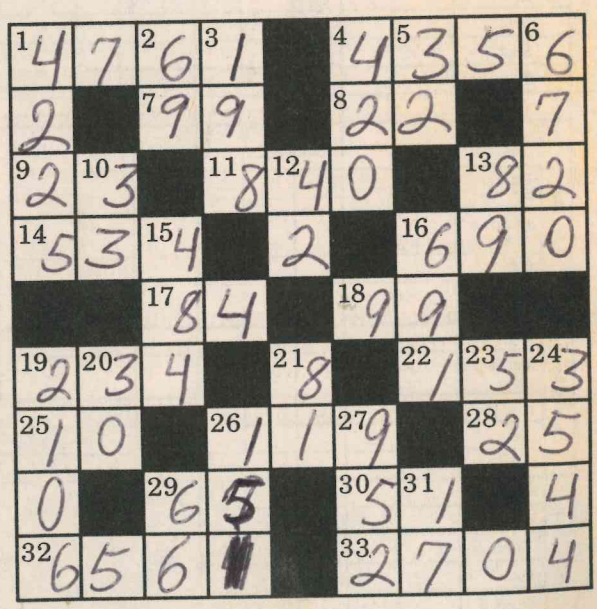


ACROSS

1. 2-Down squared
4. 29-Down squared
7. Three times 10-Down
8. One-third of 29-Down
9. One more than 8-Across
11. Twice 4-Down
13. Fifty more than 5-Down
14. Six times 13-Down
16. 2-Down times 25-Across
17. 10-Down plus 30-Across
18. Three times 10-Down
19. Consecutive digits in order
22. Three times 30-Across
25. One-third of 20-Down
26. 26-Down minus 5-Down
28. Last two digits of 1-Down
29. One less than 29-Down
30. Three times 31-Down
32. 21-Down squared
33. 23-Down squared

DOWN

1. 29-Across squared
2. Three times 9-Across
3. Two times 7-Across
4. 12-Down times 25-Across
5. Digits of 9-Across reversed
6. Eight times 11-Across
10. One more than 5-Down
12. One-half of 17-Across
13. 26-Across minus 20-Down
15. 8-Across squared
16. One more than 16-Across
19. Nine times 19-Across
20. 13-Across minus 23-Down
21. One less than 13-Across
23. 8-Across plus 20-Down
24. 11-Across plus 33-Across
26. One hundred more than 30-Across
27. Eight times 26-Across
29. Two times 10-Down
31. 13-Across minus 29-Across



Solutions are on page 60

LOGIC PROBLEM

5. BACHELOR BIRTHDAY BOOM

by Lydian Davis

A few years ago, five friends (including Torrey) met to establish a club for celebrating their birthdays together. Being bachelors all, none of them wanted to host a party in his own home, so each time one of them has a birthday, he selects the restaurant where the club meets to celebrate it (one of the restaurants chosen last year was Eileen's). The club meets once a month to pay dues (for birthday gifts and restaurant tabs), plan restaurant reservations, decide on one serious gift and one gag gift for the next birthday boy, and choose a volunteer to shop for those gifts. Each man's birthday is in a different month (including June, August, and September), and club rules require that they meet at a different restaurant for each celebration and no two men receive the same gift. From this information and the clues below, can you determine for each man, his birth month, restaurant he chose last year, and the two gifts he received at that time (one good gift was a sweater and one gag gift was a map of Transylvania for the vampire fan)?

1. The first-aid kit was the do-it-yourselfer's gag gift three months before the men celebrated one man's birthday at Bert's Restaurant. The one who is an accomplished chef received a "How to Boil Water" beginner's cookbook as a gag two months before someone chose to celebrate at Charlie's Bistro. (Note: Four different men are mentioned in this clue.)
2. Leiber, an avid golfer, received a set of cute little baby bootee golf-club covers as a gag gift.
3. Sagi is not the man with a birthday in March or November. He is not the one who spends most of his free time playing video games (who received a wrist splint as a gag gift).
4. Leo, who hates to cook, had a birthday two months before the watch was given as a good gift.
5. The man who received the videotape as a serious gift (who isn't the do-it-yourselfer) chose to eat at Alice's Trattoria.
6. The men ate at Dot's three months before the good gift of a model car kit was opened. The set of exotic, flavored coffees was given as a serious gift three months before Virgil's birthday.

Solution is on page 62.

See page 8 for directions on how to use the solving chart.

		March	June	Aug.	Sept.	Nov.	restaurants: Alice's	Bert's	Charlie's	Dot's	Eileen's	good gifts: coffees	model car	sweater	video	watch	gag gifts: cook-book	1st-aid kit	golf-club covers	map	wrist splint
Leiber																					
Leo																					
Sagi																					
Torrey																					
Virgil																					
gag gifts	cook-book																				
	1st-aid kit																				
	golf-club covers																				
	map																				
	wrist splint																				
good gifts	coffees																				
	model car																				
	sweater																				
	video																				
	watch																				
restaurants	Alice's																				
	Bert's																				
	Charlie's																				
	Dot's																				
	Eileen's																				

LOGIC PROBLEM

6. MUSCULAR MUNCHIES

by Mike Akers

Terry's Twin Treats specializes in desserts big enough to share, and is extremely popular with the students at nearby Eastwood Academy. As a matter of fact, anyone who is the first to consume any one of Terry's creations single-handedly at one sitting earns the privilege of naming that dessert. One dessert was nicknamed Superbowl. Each year, Terry sponsors a children's hospital drive fair, and this year, he recruited five varsity athletes to provide a little entertainment. Each athlete was given one of Terry's mammoth desserts in a race to see who could possibly finish it. In the end, the massive treats took their toll, and one by one, the athletes got up groaning from the table. Eventually, one and only one athlete prevailed and actually ate his or her entire dessert. From this information and the clues below, can you determine for each athlete, his or her sport, the nickname and type of dessert he or she had, and his or her ranking (from winner to 5th place)?

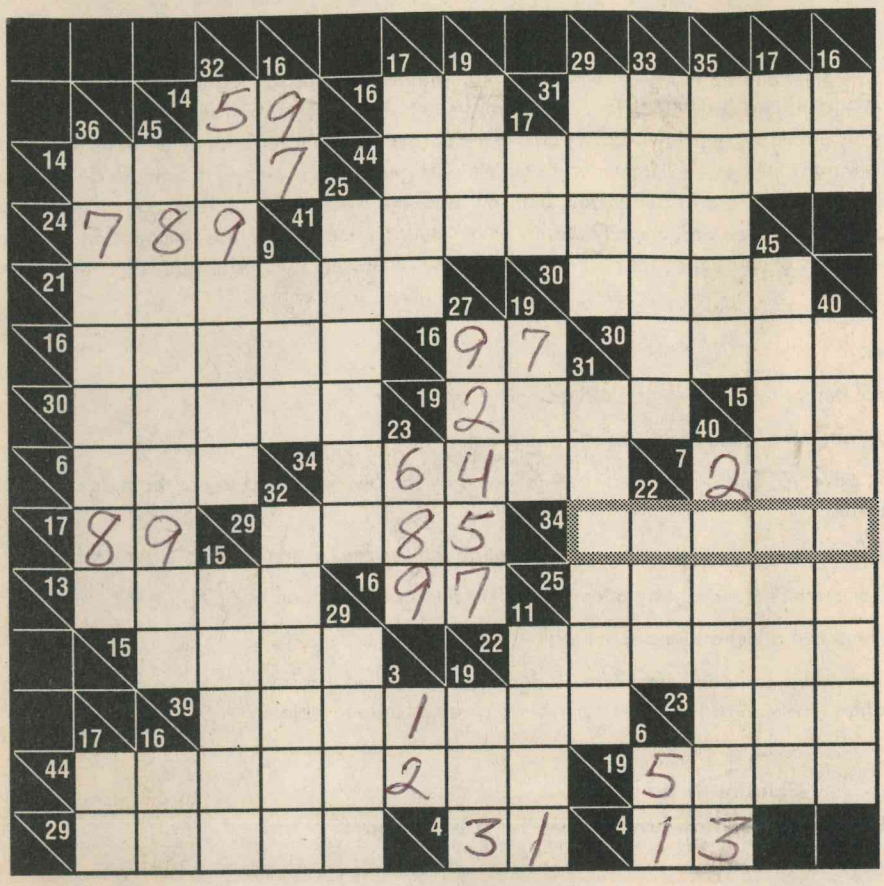
1. The parfait was nicknamed the B-1 Bomber.
2. The banana split was left unfinished, but not before the wrestler had already given up.
3. Becky outlasted the football player, but quit while the Wide Load was still being eaten.
4. The athlete who tried to eat the Slam Dunk gave up, and was immediately followed by the one who tried to eat the fudge brownie. Meanwhile, the rugby player kept on eating.
5. Only one person quit in the time between when Will and the person who was eating the sundae, in some order, left the table.
6. The shotputter outlasted Todd, who lasted longer than the one who attempted to eat the root-beer float.
7. Jack and the eventual champion were the final two athletes to leave the table.
8. Aaron and the boxer (who was not Jack) remarked that another athlete's fudge brownie looked like it was the size of a wheelbarrow tire. The person who chose the Cannonball, as well as the second person to give up, agreed. (Note: All five athletes are mentioned in this clue.)

Solution is on page 62.

See page 8 for directions on how to use the solving chart.

	boxer	football player	rugby player	shot-putter	wrestler	B-1 Bomber	Cannon-ball	Slam Dunk	Super-bowl	Wide Load	ban. split	fudge brownie	par.	R.B. float	sundae	win.	2nd	3rd	4th	5th
Aaron																				
Becky																				
Jack																				
Todd																				
Will																				
winner																				
2nd pl.																				
3rd pl.																				
4th pl.																				
5th pl.																				
banana split																				
fudge brownie																				
parfait																				
root-beer float																				
sundae																				
B-1																				
Cannon.																				
Slam																				
Super.																				
Wide																				

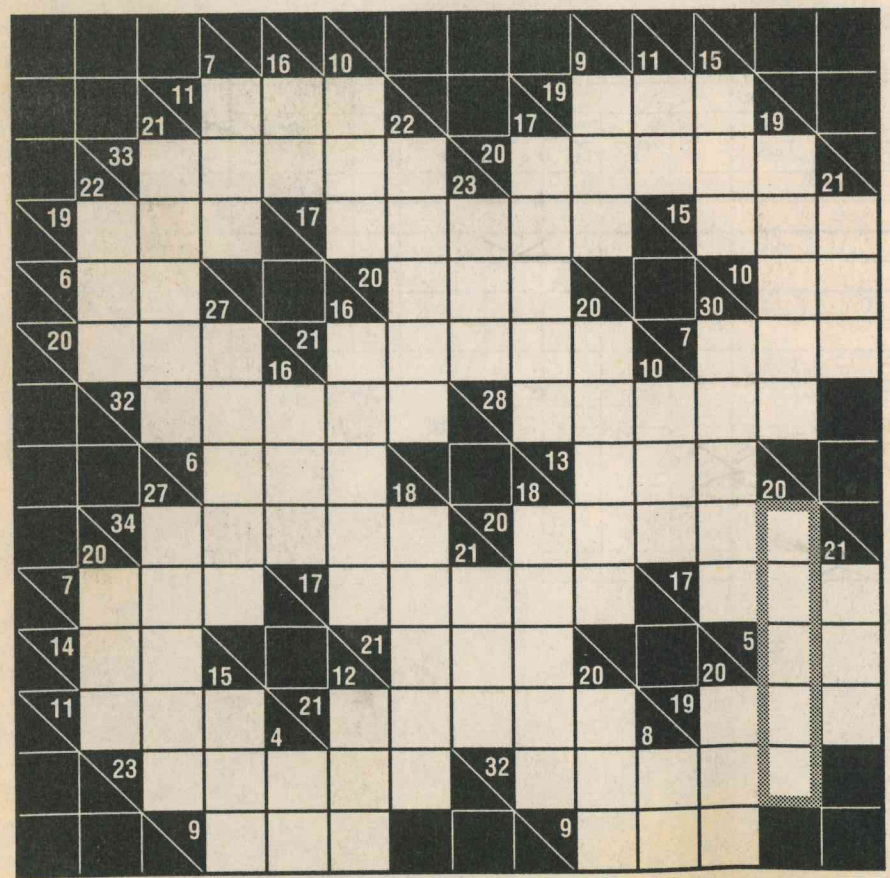
CROSS SUMS



NUMBER 9

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Solutions are on page 59.



NUMBER 10

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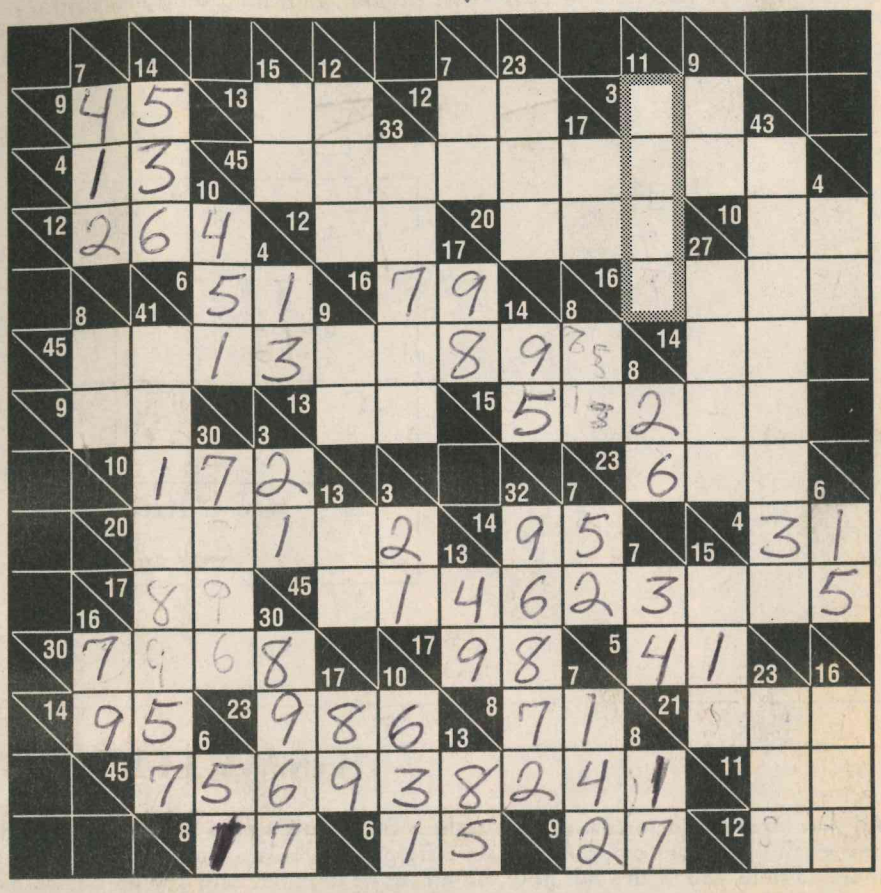
CROSS SUMS

Seattle 109
Golden St. 92
Vancouver 102
Utah 114

Minnesota 80
Phoenix 89



NUMBER 11

Debby Cuervo
"Don't Go Breaking
My China Dishes"
It's Greek to Me
Pr & D Records

Philadelphia 101
Washingta 89

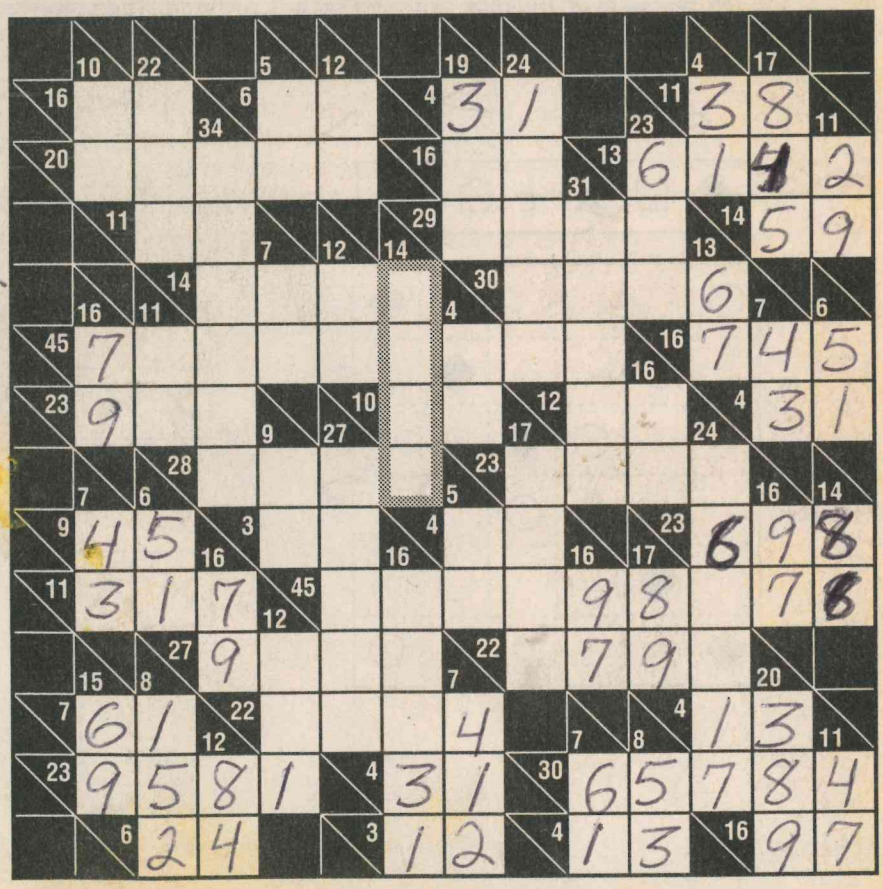
New Jersey 110
Toronto 89

Solutions are on page 59.

Indiana 94
Miami 92

NUMBER 12

Carolyn & Co.
"Kids in Yukon Territory
Who is Debby Anyway?"
Pr & D Records



Dallas 92
Orlando 98

Detroit 82
Atlanta 88

Boston 101
N.Y. Knicks 100

Cleveland 98
Chicago 110 (Jordan 33 pts.)

SECRET SQUARES

The sum of the numbers in each row, column, and long diagonal of the magic number square below equals 67. However, each of its digits 0 through 9 has been replaced by a different letter of the alphabet. It's your job, then, to determine the numbers that should be written in the 16 squares. As a starting hint, we'll tell you that S equals 8.

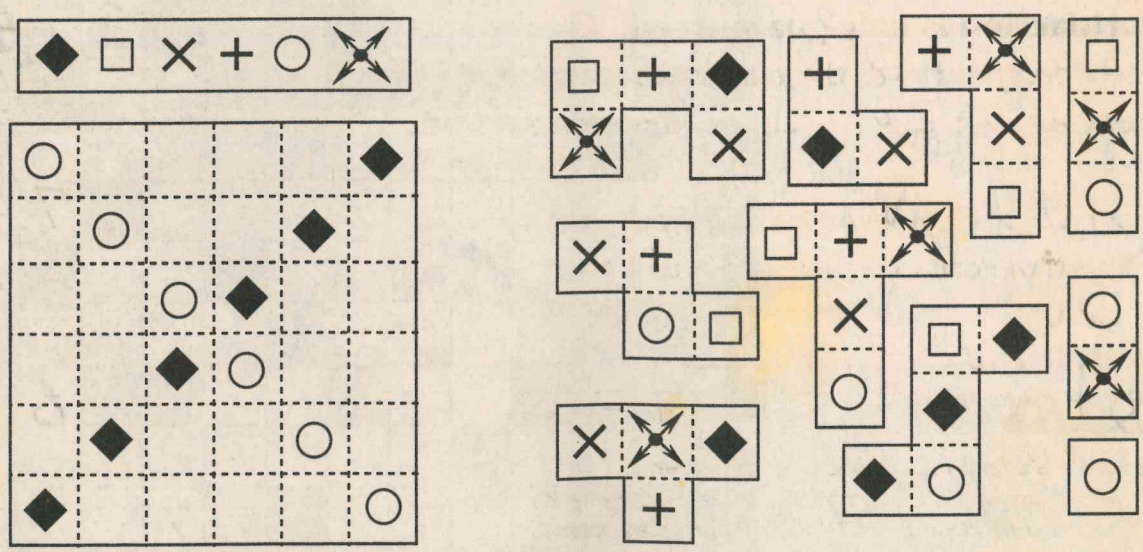
Solution is on page 66.

RL 1	JA 2	C	JH 2
R 1	RJ 12	RB 1	RE 1
JC 2	S 8	JB 2	RS 18
JL 2	RN 1	RR 11	N

JIGSAW LOGIC

All you have to do to solve this puzzle is fit the ten pieces below on the right into the grid so that each line across and each line down contains the six different symbols pictured above the grid. The symbols already in the grid are there to help you figure out how the pieces fit together and should not be moved or changed in any way. Likewise, each of the ten pieces must be kept as a unit as it is pictured. The pieces can be turned in any direction to fit into the grid. When you've finished, no symbol will be repeated within a line either across or down.

Solution is on page 61.



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098-CLPMLL

LOGIC PROBLEM

7. VAROOM!, part 1

by Jean Hannagan

To keep business thriving, Marvin Jones' auto dealership features an annual "Super Sport" sale, when all sport models are offered at special bargains. Sandy and four other buyers each had a different reason for purchasing a new car (one had a teen who had begun driving and that family needed an extra car), so the five took advantage of the first day of the sale. Each chose a car that had a different special feature and a different color (one car had leather interior and one was metallic blue). The autos were sold by Rusty and four other salespersons. From this information and the clues below, can you determine for each customer, his or her reason for buying a new car, the purchased car's special feature and color, and who sold it?

1. Terry did not buy a black car and did not win the lottery.
2. The buyer of the silver car has never met Gordy and he did not buy the convertible.
3. The new company car does not have either power seats or a CD player.
4. Neither the convertible nor the one with a sunroof is black, and neither purchaser of those two cars was the one who wanted a new car for her cross-country trip.
5. Gordy's customer was not the woman who bought the black car. Kit's brother drives a black car, so she decided to get a different color.
6. Billy did not sell a car to Pat and Pat did not buy the one with power seats. Billy did not sell the red car.
7. Jan's customer was not the one who was replacing her old car.
8. The woman who bought the car with a sunroof did not win the lottery.
9. Chris's wife and Terry are sisters. Chris did not buy a car from Jan and is not the man with the new white car.
10. The lottery winner is not the man who bought a car with power seats. Neither of these bought the silver car.
11. Gordy did not sell the car with a sunroof. Jan did not sell either the convertible or the car with the CD player. A man bought a car from Jacky.

Solution is on page 63.

See page 8 for directions on how to use the solving chart.

		reason					feature					color					salesperson				
		extra car	new co.	old-car replace.	trip	won lottery	CD player	conv.	leather interior	power seats	sun-roof	black	blue	red	silver	white	Billy	Gordy	Jacky	Jan	Rusty
	Chris																				
	Kit																				
	Pat																				
	Sandy																				
	Terry																				
salesperson	Billy																				
	Gordy																				
	Jacky																				
	Jan																				
	Rusty																				
color	black																				
	blue																				
	red																				
	silver																				
	white																				
feature	CD																				
	conv.																				
	leather interior																				
	power seats																				
	sun-roof																				

LOGIC PROBLEM

8. VAROOM!, part 2

by Jean Hannagan

NOTE: This puzzle uses information found after solving Logic Problem 7

At the end of the day, Lord and the other four salespersons congratulated each other on their success. Each had sold one car of a different model (one was a Star). As it turned out, each had sold a car to a member of the opposite sex. From the information gathered in Logic Problem 7, along with this information and the clues below, can you figure out for each customer, his or her full name (one surname is Rose), car model purchased, salesperson's full name who sold it to him or her, and the order in which the five cars were sold?

1. Ms. Green made a purchase before the one who bought the car with a sunroof, who did not buy either the Arc or the Las Vegas.
2. Ms. Scott made a sale sometime after Meyers did. Meyers did not sell a car to Mr. Gold, who is not the one who bought the white car.
3. Olinger's sale was before at least one other person's. Olinger did not sell the Rio.
4. The Knight was purchased before, but not immediately before, the last sale. The customer surnamed Gray did not buy the black car and did not buy the Knight.
5. The woman who bought the Rio was not the last customer.
6. Pat is not surnamed Green and is not the woman who bought the Las Vegas.
7. Meyers sold a car sometime after Brown's purchase.
8. The first and last customers were women. Neither is the one who bought the car from Mr. Vargas.

Solution is on page 63.

The fill-in chart below was found to be most helpful in solving this problem.

Customer		Car model	Salesperson		Purchase order
First name	Last name		First name	Last name	

WORD ARITHMETIC

Solving directions are on page 11. Answers are on page 66.

28. JUSTBEFIRM

0 1 2 3 4 5 6 7 8 9

```
                  919
                  MUM
4532   | 4166582
BETS   | BUFFERS
       | 40788
       | BJIRR
       | 8778
       | RIIR
       | 4532
       | BETS
       | 42462
       | BSBFS
       | 40788
       | BJIRR
       |  1674
       |  UFIB
```

29. BIGCOUNTRY

0 1 2 3 4 5 6 7 8 9

```
                  6456
                  NOUN
146    | 942587
ION    | YOGURT
       | 876
       | RTN
       | 665
       | NNU
       | 584
       | URO
       | 818
       | RIR
       | 730
       | TCB
       | 887
       | RRT
       | 876
       | RTN
       |  11
       |  II
```

30. CHANGEVOWS

0 1 2 3 4 5 6 7 8 9

```
                  124
                  HAG
735    | 91765
ONE    | SHOVE
       | 835
       | ONE
       | 1826
       | HWAV
       | 1470
       | HGOC
       | 3565
       | NEVE
       | 2940
       | ASGC
       |  625
       |  VAE
```

31. UNDERCOATS

0 1 2 3 4 5 6 7 8 9

```
                  868
                  TOT
504    | 437589
CUR    | REACTS
       | 4032
       | RUED
       | 3438
       | ERET
       | 3024
       | EUDR
       | 4149
       | RNRS
       | 4032
       | RUED
       |  117
       |  NNA
```

32. M

0 1 2 3 4 5 6 7 8 9

```
                  SIR
SELL   | LETTER
       | RTRY
       | SSLCE
       | SUYUE
       |     0
       | UTIMR
       | UTTIR
       |     0
       |  YSM
```

33. S

0 1 2 3 4 5 6 7 8 9

```
                  IRE
LIAR   | DRIBBLE
       | DDEBR
       |   01
       | ORSNL
       |  0
       | OOSOO
       |  0 2
       | DSRAE
       |  0 11
       | DSDNI
       |    02
       |  OSA
```

34.

0 1 2 3 4 5 6 7 8 9

```
                  EAT
SAG    | RATHER
       | RHIT
       | NEE
       | SAG
       | VRSR
       | VAAE
       |  AVN
```

35. YOUNGCHILD

0 1 2 3 4 5 6 7 8 9

```
                  67
                  HI
91880  | 6189734
DOLLY  | HOLDING
       | 551280
       | CCOULY
       | 676934
       | HIHDNG
       | 643160
       | HGNOHY
       |  33774
       |  NNIIG
```

36.

0 1 2 3 4 5 6 7 8 9

```
                  AL
IAN    | PANIC
       | PMEA
       | MDOC
       | MIME
       |  MEM
```

FIGURE LOGIC 6

by Linda Thistle

Directions for solving Figure Logics are on page 9. This puzzle is a cube — so instead of entering numbers in two directions, you will enter numbers in three. Direction A goes down and to the left, Direction B goes down and to the right, and Direction C goes across. A starting help is given on page 66.

DIRECTION A

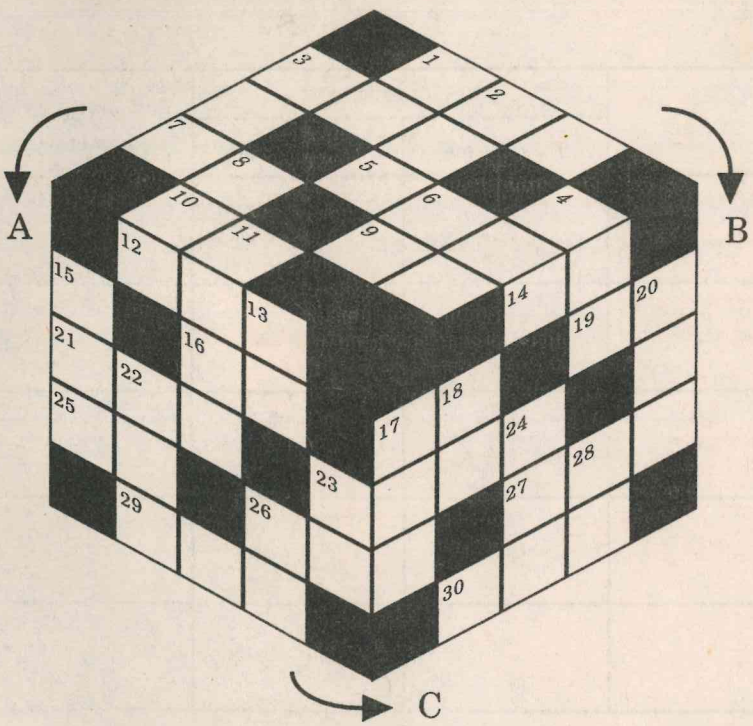
1. One-half of 10-B
2. One-half of 29-C
3. One-fourth of 4-A
4. 26-C minus 4-B
6. 28-B plus 17-C
8. 23-C minus 11-A
11. One-half of 5-B
13. One-third of 3-B
15. 13-A times 16-C
22. 1-B plus 29-C
23. Three more than 14-C
26. 27-C minus 21-C

DIRECTION B

1. Three times 3-A
3. 26-C minus 15-A
4. One-half of 8-A
5. 1-B times 18-B
7. One less than 26-A
9. 23-A plus 17-C
10. Five more than 25-C
17. One-half of 21-C
18. One-fifth of 26-A
20. 3-B plus 30-C
24. Three times 17-B
28. 1-A plus 14-C

DIRECTION C

12. Seventy more than 2-A
14. Two times 16-C
16. Four less than 18-B
17. One-third of 19-C
19. One less than 28-B
21. Eight times 10-B
23. 13-A times 10-B
25. 1-A plus 23-A
26. Three times 20-B
27. 8-A minus 20-B
29. 15-A minus 20-B
30. One-fourth of 21-C



Solution is on page 60

LOGIC PROBLEM

9. WEDDING FEVER

by Kathleen A. Misze

Mr. and Mrs. Jennison were going crazy. "Why on earth have all five of you decided to get married on the same day?" screeched Mrs. Jennison. "Why?" she pleaded with her five daughters, yanking at her frizzed-out hair. Beg as she did, the five girls (one is Nancy) decided on a date for the collective, quintuple wedding. As it so happened, the five bridegrooms (one is Peter) each hailed from a different city (one was from Knoxville). From this information and the clues below, can you determine for each Jennison daughter, her age (they were two years' apart from one another aged 18 to 26), the full name of her bridegroom, the city he's from, and the site of each couple's honeymoon (one was to be the Virgin Islands)?

1. Five men — Aaron, Mr. Solon, the Cancun-bound groom, the man from Los Angeles, and Crystal's groom — all became in-laws to one another via the quintuple wedding.
2. The Provence-bound bride was the youngest, while Duke married the eldest.
3. Since it's traditional at a double (or larger, as the case is) wedding that the eldest woman is married first and the youngest last, the order of vows were: Liz and her bridegroom, the Monaco honeymooners, the man from Pittsburgh and his bride, the Nice honeymooners, and finally, Geoff and his bride.
4. Each of the five brides carried a different kind of bouquet: Nomi carried daisies; Aaron's bride, roses; the Monaco-bound bride, violets; Mr. Horowitz's bride, carnations; and the bride of the man from Pittsburgh, mums.
5. Each of the five grooms wore a boutonniere to match his bride's bouquet: Carrie's groom, Mr. McBurney, wore a rose; Mr. Thompson, a daisy; the man from Chicago, a carnation; Mr. Little, a mum; and Alexander, a violet.
6. Alexander is not from New Orleans.

Solution is on page 63.

Use the space below for solving this problem.

Bride	Age	Bridegroom		His hometown	Honeymoon site
		First name	Last name		

LOGIC PROBLEM

10. PUTT-PUTT COMPETITION

by Jennifer Stern

Looking for something different to do on Friday night instead of going to the movies, Doreen and her three best buds decided on a good, tough match of putt-putt golf. First off, they decided that whoever might win, no one was going to be upset; they certainly didn't want their friendship to be hurt by a little bit of competition. That is, until they walked up to the counter and fought over the color of their golf balls. All four ended up with different colors (one ball was violet). Then, it was off to hole number 1, and that tricky windmill. After the first four holes, they decided to take a soda break and add up their scores, thus far. From this information and the clues below, can you determine for each competitor, his or her golf-ball color, the score he or she made on each of the first four holes and total so far, and the ranking of the four friends after the four holes? (Note: The par scores for the first four holes, in order, were: 2, 3, 3, and 2. In golf, high score loses, since the object is to use as few strokes as possible; "par" is the course's established average score for each hole.)

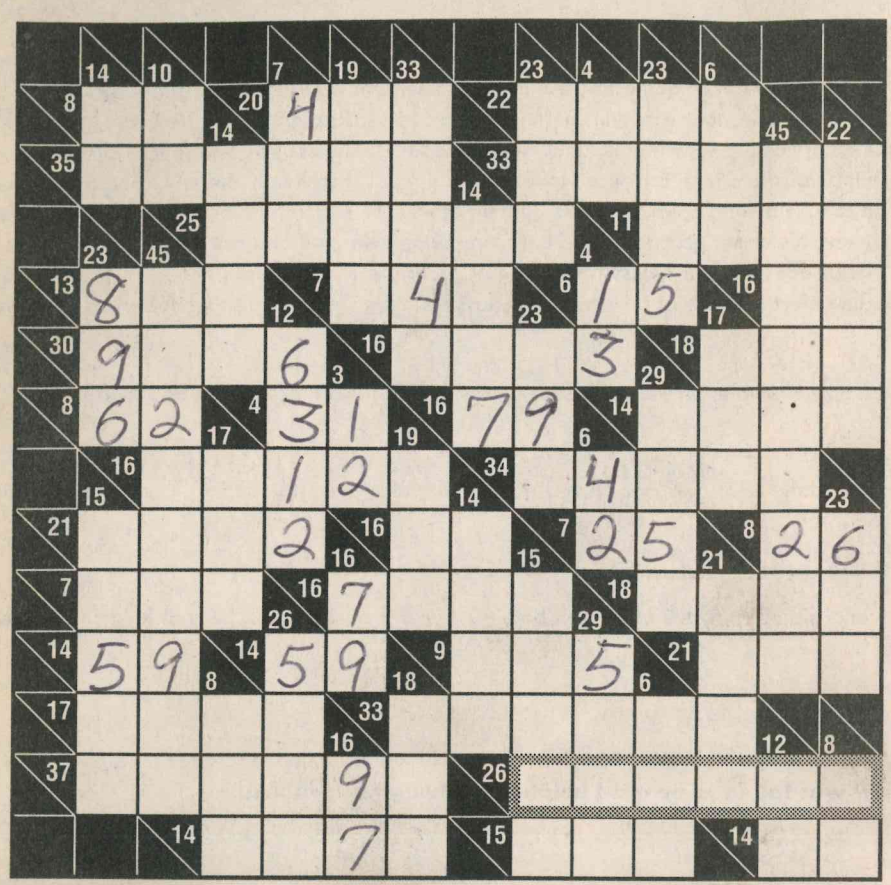
1. The player of the orange golf ball made the only two holes in one (balls sunk with only one stroke), on the first and fourth holes.
2. Macy's total was under seven.
3. The player of the tan golf ball, who was not Andy, went over par on two holes but totaled precisely par at the end of the four holes.
4. One player scored two on each of the first three holes.
5. The only time Andy, who took third place and did not play the black golf ball, went over par was when he shot four on the second hole.
6. Juan shot six on the last hole.

Solution is on page 63.

The fill-in chart below was found to be most helpful in solving this problem.

Name	Ball color	Score					Rank
		1	2	3	4	Total	

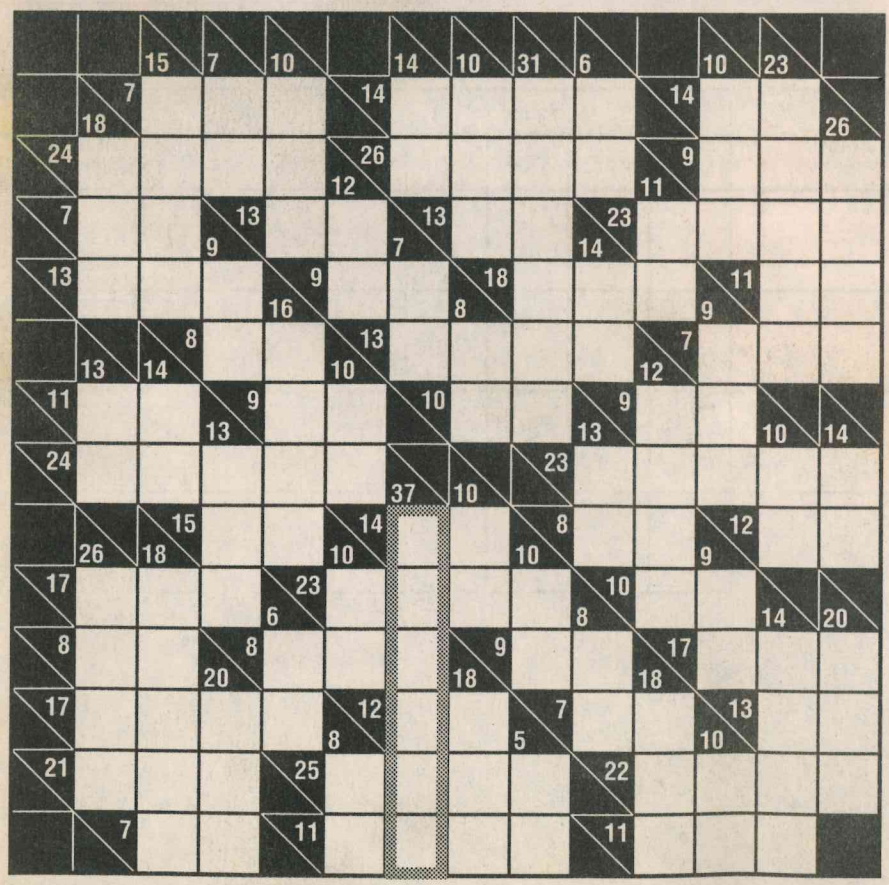
CROSS SUMS



NUMBER 13

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Solutions are on page 59.



NUMBER 14

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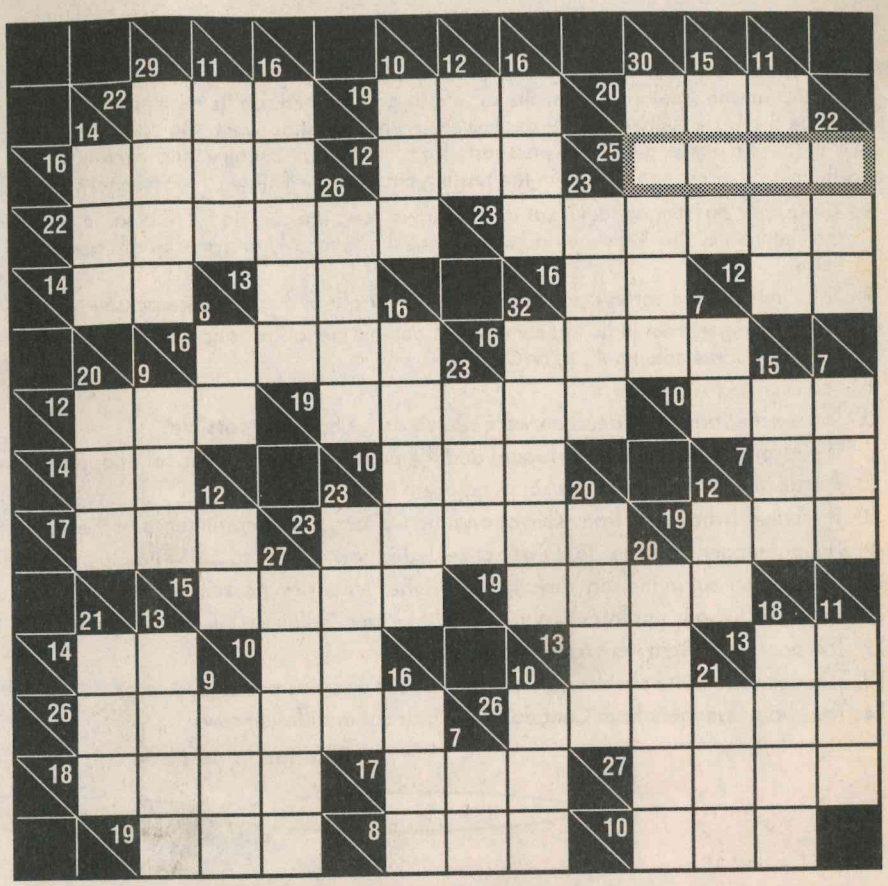
CROSS SUMS

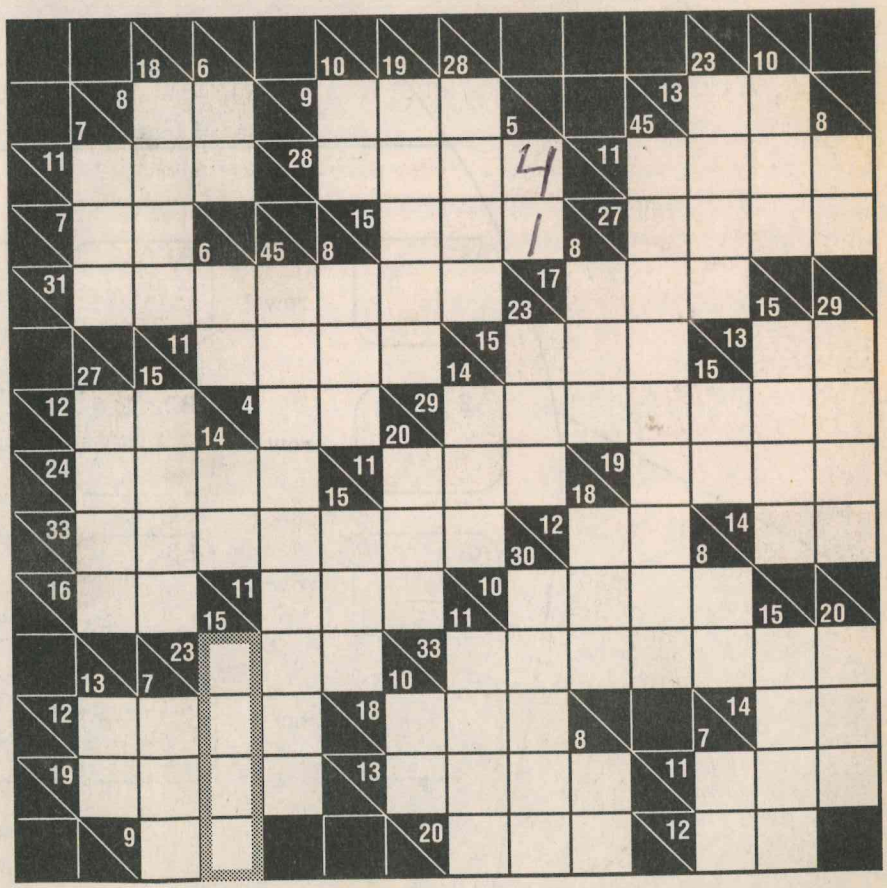
NUMBER 15



Solutions are on page 59.

NUMBER 16

What gay event?



LOGIC PROBLEM

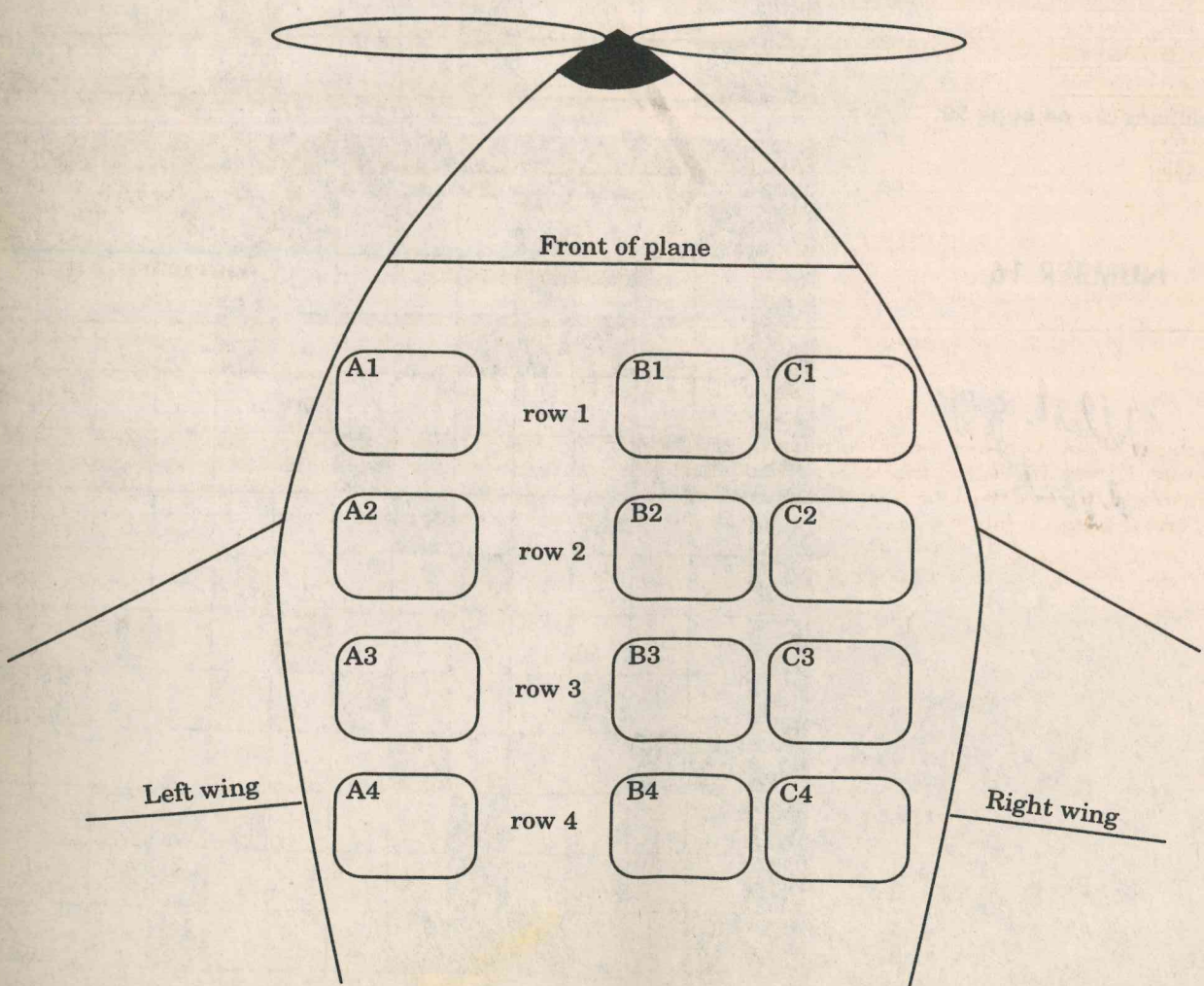
11. THE ECLIPSE CLIPPER

by Kevyn Dymond

The tiny island of Minutia was the only place in the path of a recent solar eclipse. Because of that natural occurrence, Minutia Airlines (consisting of one small propeller plane) had to greatly increase its regularly scheduled air service to and from the mainland in order to handle the brisk tourist activity generated by this celestial event. On one flight from the mainland, the flight attendant noticed that each of the 12 passengers bore passports from a different country, and each also had a different occupation. From this information and the clues below, can you fill in the seating chart below with each passenger's occupation and home country?

1. These four passengers each sat in a different row: the secretary (who sat in a different column — A, B, or C — than the Greek), the mechanic, the Venezuelan (who is not the teacher), and the Greek passenger. All four of these passengers sat in window seats.
2. The Zimbabwean sat in the seat directly to the right of the Japanese passenger.
3. The passenger from India sat somewhere behind the lawyer and somewhere in front of the English passenger (none of these three sat in the same column A, B, or C).
4. The architect sat in row 4.
5. The teacher and the Canadian were seated as far apart as possible.
6. The farmer (who is not from Japan) and the passenger from Qatar sat at opposite ends of the same column (A, B, or C).
7. The doctor and the secretary sat in adjacent rows.
8. The baker (who is not from Kenya) and the waiter sat at opposite ends of the same row.
9. The passenger from the USA was not seated in row 1.
10. The rancher sat in the seat directly behind the Hungarian passenger (who sat in the same row as the Greek passenger).
11. The actor (who is not from England) and the New Zealander sat at opposite ends of the same row.
12. The passenger from Kenya sat in row 2.
13. The doctor and the plumber were seated as far apart as possible.
14. The two passengers from Canada and Qatar sat in different rows.

Solution is on page 64.

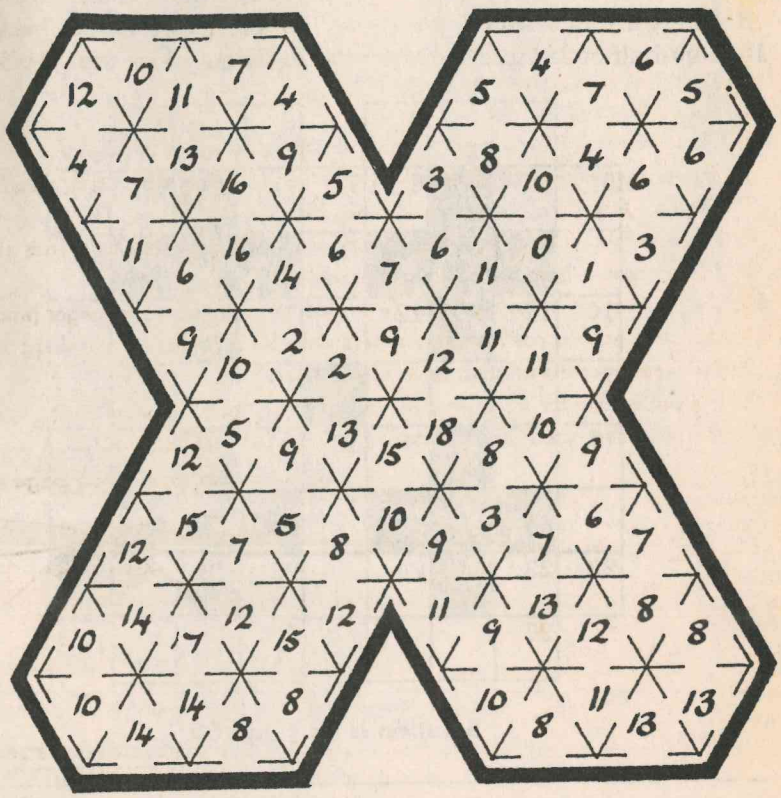


TRIGONS

Trigons will test your powers of logic and deduction. Each diagram is made up of a series of open triangles with a number in the center; that number represents the sum of the digits you are to write into the spaces on the sides of the triangles. Where two triangles share a side, they share the number to be written into that side. When a triangle shares only one side with another triangle, the two noncontact sides will share the same number. All the combinations in this Trigons use only the digits 0 through 6. We've listed all the possible combinations for every sum in the small chart, so all you have to do is figure out which of those combinations belongs where (not as easy as it sounds!). The numbers in a combination can go in any order around their triangle, and each combination will be used exactly once. You can begin by filling in 0-0-0 around the triangle with 0 at its center and 6-6-6 around the triangle with 18 at its center. It helps to look for large sums adjacent to small sums, as they will have fewer possibilities for common digits.

Solution is on page 60.

0	000							
1	001							
2	002	011						
3	003	012	111					
4	004	013	022	112				
5	005	014	023	113	122			
6	006	015	024	033	114	123	222	
7	016	025	034	115	124	133	223	
8	026	035	044	116	125	134	224	233
9	036	045	126	135	144	225	234	333
10	046	055	136	145	226	235	244	334
11	056	146	155	236	245	335	344	
12	066	156	246	255	336	345	444	
13	166	256	346	355	445			
14	266	356	446	455				
15	366	456	555					
16	466	556						
17	566							
18	666							



ADDITION LOGIC

In each set of words below, each word is also an addition problem — each of the letters stands for one of the digits 1 through 9, and the sum of the values of the letters in a word equals the total given after the word. Using the addition involved, try to determine the value of each of the letters. In each set of words, no two letters stand for the same digit, and if R stands for 3 in one word, it will be the same throughout that set of words. **Answers are on page 66.**

1.

H + A + I + L = 30

A + P + E + D = 18

D + E + E + R = 16

P + E + N + D = 10

D + I + L + L = 26

2.

M + E + M + O = 13

P + L + U + M = 10

N + A + M + E = 23

L + U + L + L = 10

N + E + E + D = 29

FIGURE LOGIC 7

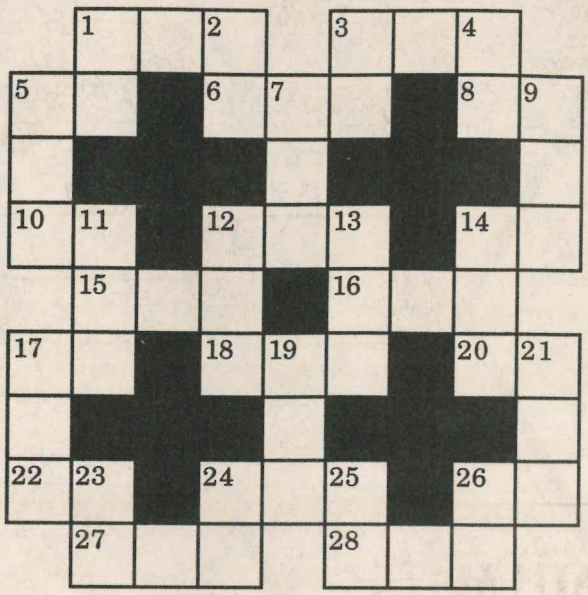
by Linda Thistle

Directions for solving Figure Logics are on page 9. NOTE: M represents a set of three digits arranged differently each time M appears in the puzzle. N is another set of three digits.

If you need help starting this puzzle, a help is on page 66.

ACROSS

1. M
3. M
5. Six less than 26-Across
6. N
8. One-third of 9-Down
10. One-half of 28-Across
12. 6-Across minus 19-Down
14. 1-Across minus 13-Down
15. M
16. N
17. One more than 4-Down
18. 16-Across minus 15-Across
20. Ninety less than 21-Down
22. One-ninth of 12-Across
24. N
26. One-ninth of 5-Down
27. 18-Across minus 17-Down
28. 3-Across minus 27-Across



DOWN

1. One-ninth of 13-Down
2. Three more than 22-Across
3. One-half of 12-Down
4. One-third of 20-Across
5. 6-Across minus 27-Across
7. N
9. M
11. Two times 5-Down
12. M
13. 7-Down minus 28-Across
14. N
17. M
19. N
21. 13-Down minus 27-Across
23. One-seventh of 14-Down
24. Two less than 14-Across
25. One less than 8-Across
26. Four more than 23-Down

Solution is on page 60

WHAT'S THE ORDER?

We asked a solver on the street to try to guess a four-digit number combination; the solver took five guesses, which appear below. In each try, our solver had at least part of the combination correct, as noted by the symbols appearing next to each guess. An "X" next to the combination stands for a correct digit in its correct place in the combination, and an "O" stands for a correct digit out of its correct order. For example, combination D has been given an O and an X, so two of the four digits 8, 1, 7, and 2 appear in the final combination — one in the position given (for example, 8 might be the first digit of the correct combination), and one in a different position (1 might be the last digit of the combination). The placement of the symbols does not correspond to any particular place in the combination. Using the five graded guesses together, can you deduce the correct combination? **Answer is on page 66.**

A.	7	4	9	3	OO
B.	5	3	1	2	X
C.	9	8	6	5	OO
D.	8	1	7	2	OX
E.	6	3	4	9	XX

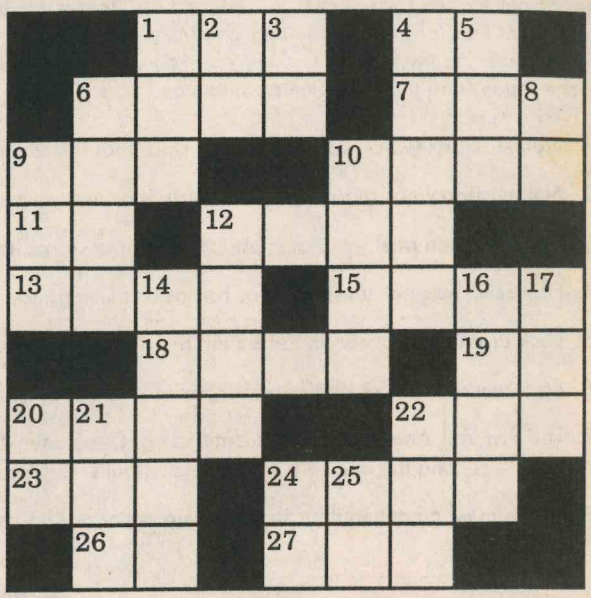
FIGURE LOGIC 8

by Linda Thistle

Directions for solving Figure Logics are on page 9.

If you need help starting this puzzle, a help is on page 66.

1. Each down answer is composed of consecutive digits in no particular order.
2. 1-Across is the sum of 9-Across and 25-Down.
3. 12-Across is the product of 4-Across and 22-Across.
4. 6-Across is one-half of 15-Across; 10-Across is one-half of 4-Down; 24-Across is one-half of 10-Down; 26-Across is one-half of 11-Across.
5. 4-Across is one more than 20-Down; 11-Across is one more than 19-Across; 7-Across is five more than 1-Across; 27-Across is nine more than 1-Down.
6. 22-Across is thirty more than 5-Down; 23-Across is thirty less than 17-Down.
7. 13-Across is five times 7-Across; 18-Across is one-eighth of 14-Down.
8. 19-Across has the same digits as 24-Down, reversed.
9. 20-Across is 24-Down squared.

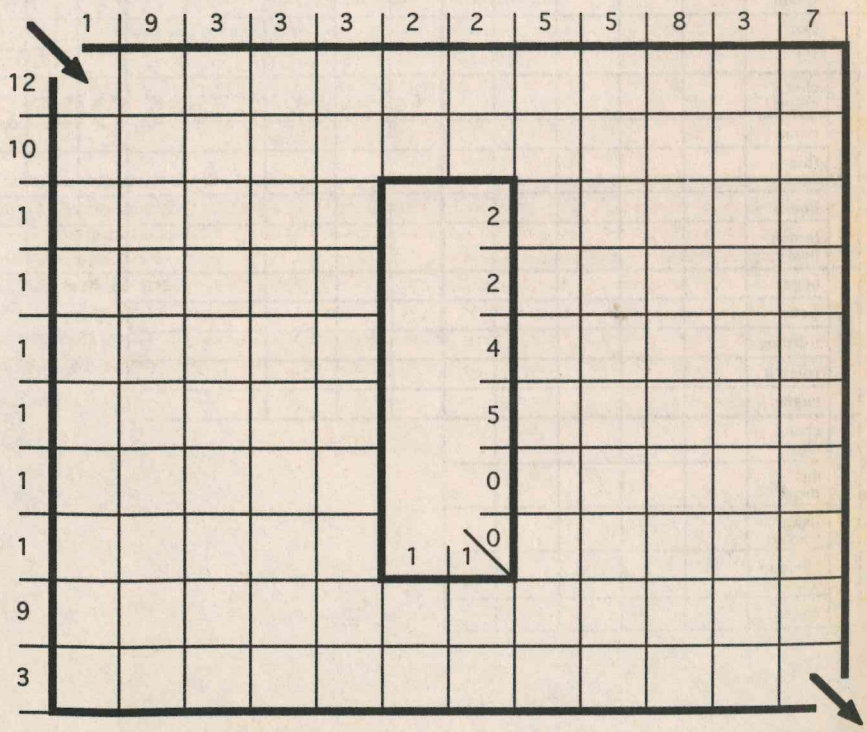


Solution is on page 60

MATH MAZE

You'll have to use some deductive reasoning to make your way from start to finish in this maze. The maze is divided into squares; the number at the beginning of each row and column tells you exactly how many of those squares you will have to cross through in order to correctly reach the finish. For example, the number 12 is on the first row across; this means you will have to cross through exactly 12 of the boxes in that row. You need not cross through all of them at once; you may leave a row or column and return to it. For example, you might cross the first two boxes of the first row, then turn downward. You would then have to return to the first row later so that you use exactly ten more boxes from that row before you finish the maze. No diagonal moves are allowed. Solving hint: To begin, blacken any box that you determine will not be used, and place a dot in any box that you know must be used.

Solution is on page 66.



LOGIC PROBLEM

12. UNEDIBLE TREATS

by Linda Thistle

"If it ain't broke, don't fix it!" protested one budding engineer when his mom announced that she was tired of following recipes exactly. She had decided to inject a little adventure into her life by tinkering with the ingredients in her cookie recipes. As it turned out, four of her friends (two are Ms. O'Dell and Mr. Baker) decided to do the same thing after she talked to them about it. Each one made a different kind of cookie, omitting one usual ingredient, and adding a new ingredient. The results were decidedly mixed. From this information and the following clues, can you determine each experimenter's full name (one first name is Carla), the kind of cookie he or she made, and the ingredients omitted and added?

1. Neither Doris (who was not the cook who added flax seed to her cookie batter) nor Ed made snickerdoodles.
2. Neither Barry nor Moore used cocoa or chocolate chips.
3. Grated lemon peel was not substituted for flour or raisins.
4. Flax seed was not substituted for raisins or nutmeg, nor was it used in the oatmeal cookies.
5. Peck did not use cocoa in her batter, nor did she bake sugar cookies.
6. Eggs weren't left out of the sugar cookies or the snickerdoodles (which were not baked by Cooke).
7. The five are: Ann, the one who omitted eggs, the one who replaced sugar with honey (who is not the one who baked sugar cookies), Peck, and the one who baked peanut butter cookies.
8. The man who omitted flour in his cookie batter did not make snickerdoodles or chocolate chip cookies.

Solution is on page 64.

See page 8 for directions on how to use the solving chart.

		Baker	Cooke	Moore	O'Dell	Peck	cookies: choc. chip	cookies: oat-meal	cookies: peanut butter	cookies: snicker-doodles	cookies: sugar	omitted: eggs	omitted: flour	omitted: nutmeg	omitted: raisins	omitted: sugar	added: choc. chips	added: cocoa	added: flax seed	added: honey	added: lemon peel
	Ann																				
	Barry																				
	Carla																				
	Doris																				
	Ed																				
added	choc. chips																				
	cocoa																				
	flax seed																				
	honey																				
	lemon peel																				
omitted	eggs																				
	flour																				
	nutmeg																				
	raisins																				
	sugar																				
cookies	choc. chip																				
	oat-meal																				
	peanut butter																				
	snicker-doodles																				
	sugar																				

LOGIC PROBLEM

13. NEGOTIATIONS ABOUND

by Janet Fleming

Robin and four other company representatives closed deals last week to buy different buildings in Sunville. Each rep, including Ibarra, acted on behalf of a different company (one represented Business Pros). Each of the buildings, including the one on Second Avenue, is located on a different street. In addition, no two buildings are the same type of structure. From this information and the clues below, can you determine each representative's full name, company he or she works for, location of the building he or she bought for the company, and type of building it is (one is a strip mall)?

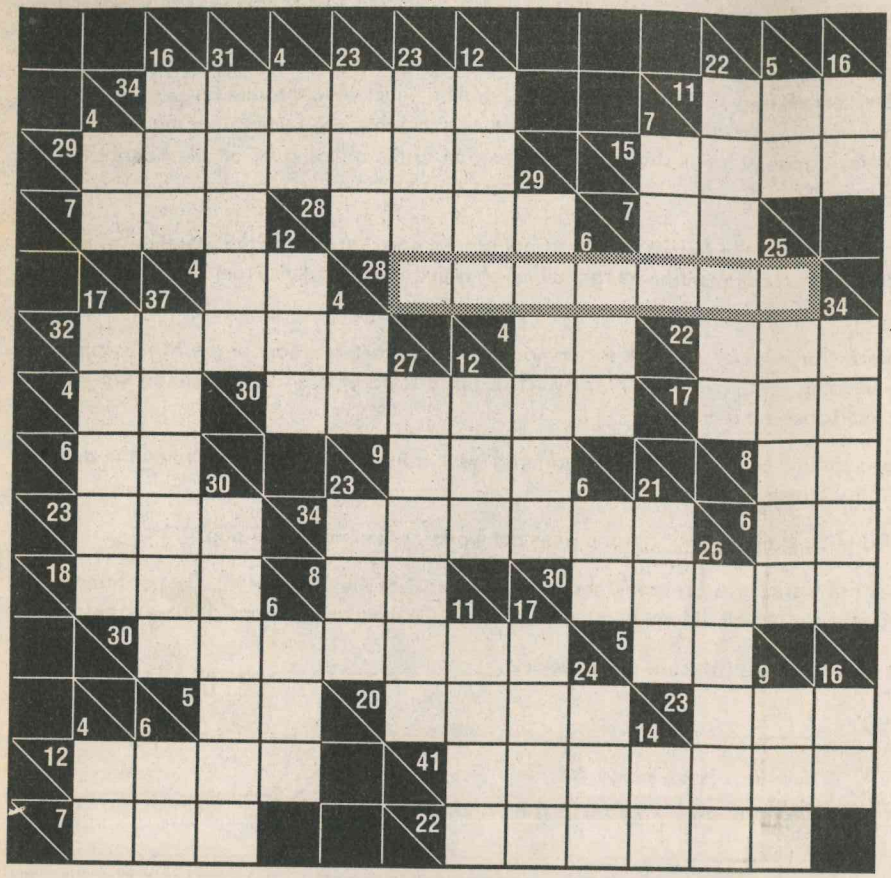
1. Terry (who works for a company headquartered west of the Mississippi River, but not the one that bought the warehouse) did not handle the negotiations for the office building or the apartment building (neither of which is on Market Street nor is the one that Leslie negotiated for).
2. Pat, Jones, and the representative for Eastern Corporation all work for companies headquartered east of the Mississippi. The companies buying the warehouse and the building on Commerce Court (which is not a factory) are headquartered west of the Mississippi. (Note: All five companies are mentioned in this clue.)
3. Neither Leslie nor the representative for Davis Limited (which is not headquartered west of the Mississippi) negotiated the deal for the office building (which is not located on Easy Street).
4. Pat (who does not work for Davis Limited) is not Gold or Honshu. Honshu does not work for the Conners Group.
5. Faisal (who is not Terry or Leslie, and does not work for a company headquartered east of the Mississippi) did not handle the deal for the Conners Group or for Allied Enterprises (which did not buy the building on Commerce Court or Primrose Lane).
6. Sandy was never interested in the building on Easy Street (which is not a factory).
7. The building on Market Street is not a factory.

Solution is on page 64.

See page 8 for directions on how to use the solving chart.

	Faisal	Gold	Honshu	Ibarra	Jones	Allied Ent.	Bus. Pros	Con. Grp.	Davis Ltd.	East. Corp.	Com.	Easy	Mar.	Prim.	2nd	apt.	fact.	mall	off.	ware.
Leslie																				
Pat																				
Robin																				
Sandy																				
Terry																				
apartment																				
factory																				
mall																				
office																				
warehouse																				
Com.																				
Easy																				
Market																				
Primrose																				
Second																				
Allied Ent.																				
Business Pros																				
Conners Group																				
Davis Ltd.																				
Eastern Corp.																				

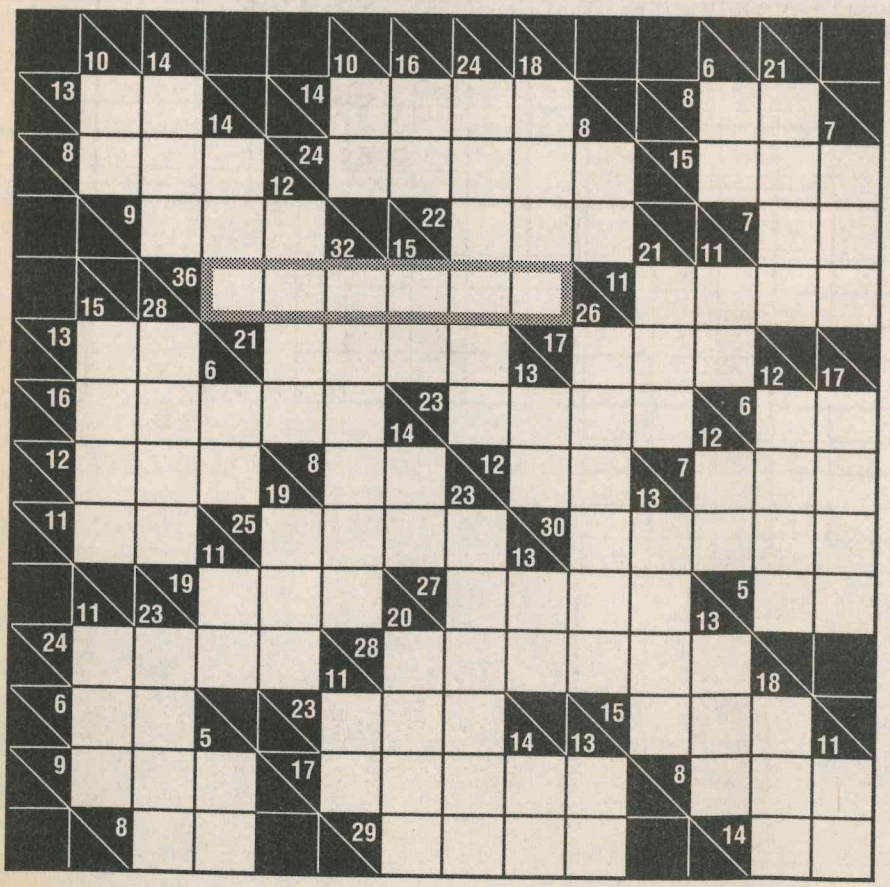
CROSS SUMS



NUMBER 17

We have outlined one area in each diagram on these two pages. If you need help starting a puzzle, the digit combination to go into that area is listed on page 66.

Solutions are on page 59.



NUMBER 18

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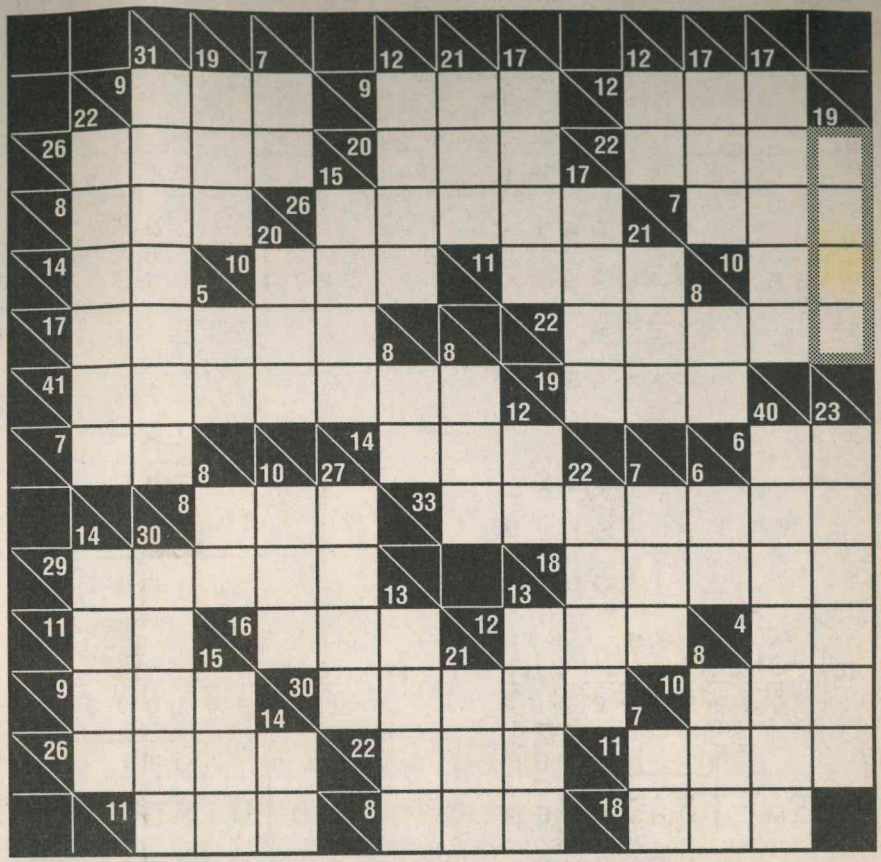
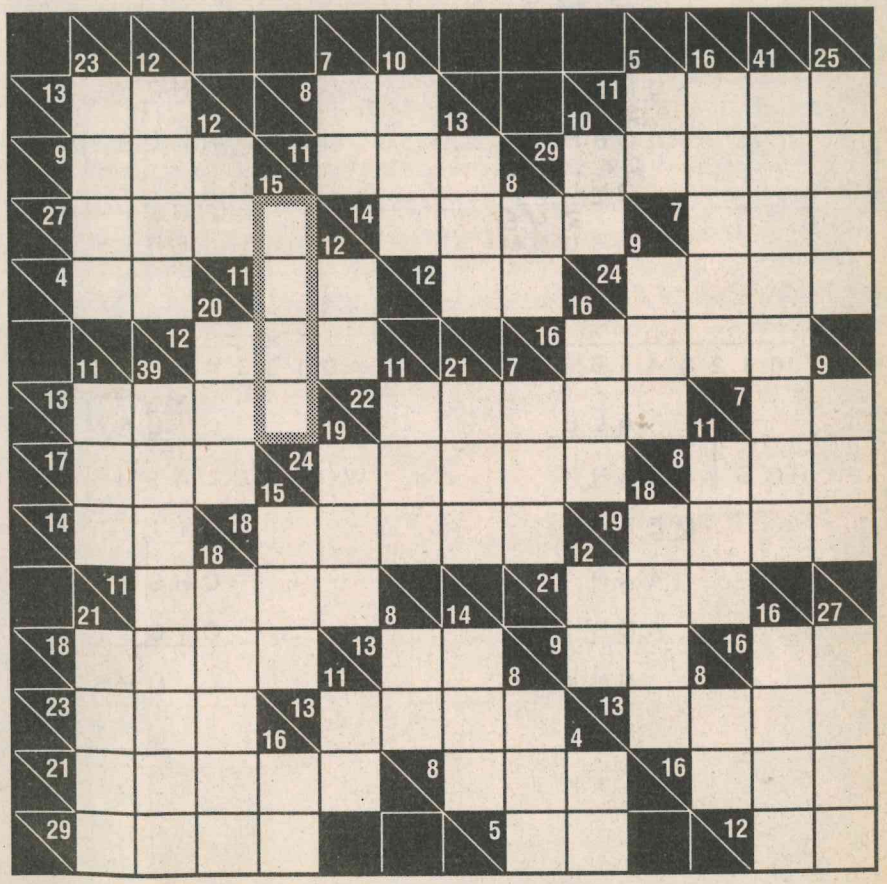
CROSS SUMS

NUMBER 19



Solutions are on page 59.

NUMBER 20



WORD ARITHMETIC

Solving directions are on page 11. Answers are on page 66.

37. _____
0 1 2 3 4 5 6 7 8 9

```
          DAY
    ------------
EEL | DAMAGE
      YEEM
      AYAG
      IEUM
       YOGE
        EEL
        OUA
```

38. _____
0 1 2 3 4 5 6 7 8 9

```
          INN
    ------------
OFT | MOUSE
      OFT
      ITOS
      ISIC
       ITNE
       ISIC
        IFM
```

39. _____
0 1 2 3 4 5 6 7 8 9

```
          DA
    ------------
DANDY | SEDANS
        SDXCN
        YOACS
        DANDY
        AYEXB
```

40. GROUNDMEAT
0 1 2 3 4 5 6 7 8 9

```
          975
          TED
    ------------
5267 | 5136671
DOME | DRUMMER
     47403
     NENGU
      39637
      UTMUE
     36869
     UMAMT
      27681
       OEMAR
      26335
       OMUUD
        1346
        RUNM
```

41. _____
0 1 2 3 4 5 6 7 8 9

```
          DRY
    ------------
END | MINER
      MNF
       NIE
       END
       RNLR
       RRIT
        ERR
```

42. LANDSURVEY
0 1 2 3 4 5 6 7 8 9

```
          898
          EYE
    ------------
9163 | 8235684
YARD | ENDURES
     73304
     VDDLS
      90528
      YLUNE
     82467
     ENSRV
      80614
VEY    ELRAS
      73304
      VDDLS
       7310
       VDAL
```

43. _____
0 1 2 3 4 5 6 7 8 9

```
          ALE
    ------------
ROB | PRANK
      MEB
       AAN
       AOB
        NNK
        EMB
         AK
```

44. _____
0 1 2 3 4 5 6 7 8 9

```
          LAW
    ------------
WOO | CLAIMS
      COII
       CHSM
       CTCS
        MMS
        MTT
         OL
```

45. _____
0 1 2 3 4 5 6 7 8 9

```
          AM
    ------------
ASH | FACET
      FFME
       OSCT
       OFAS
        MML
```

FIGURE LOGIC 9
CHALLENGER

by Linda Thistle

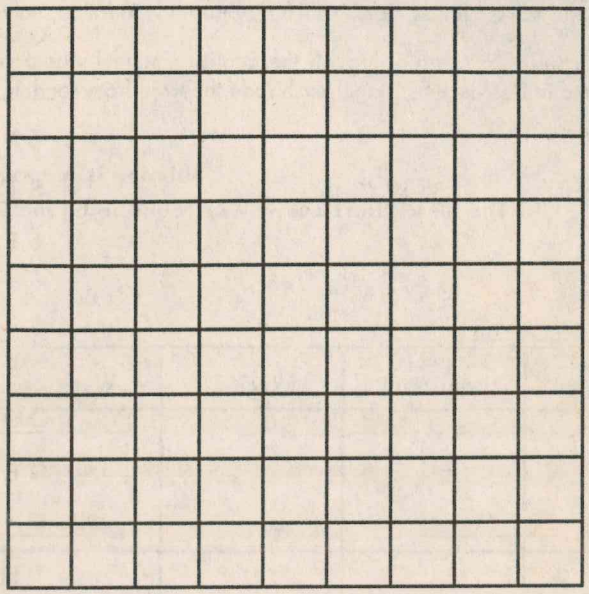
Directions for solving Figure Logics are on page 9. This puzzle is a diagramless — you will have to enter the black squares as well as the numbers into the diagram as you solve. Remember that the diagram is symmetrical from the top-left corner to the bottom-right so, when you decide the location of one black square, you can enter its counterpart. If you need help starting this puzzle, the starting box, as well as a help, is listed on page 66.

ACROSS

2. Two more than 2-Down
5. Square root of 17-Across
6. 26-Across minus 5-Down
9. Three times 20-Down
11. 9-Across minus 20-Down
12. Four times 28-Down
13. 10-Down plus 19-Down
16. Two more than 12-Across
17. Three times 23-Down
18. One-seventh of 2-Down
20. 30-Across times 1-Down
21. Two times 5-Across
22. Three times 2-Down
24. Four times 9-Across
26. 2-Across times 9-Down
29. Three more than 16-Across
30. Five less than 27-Down

DOWN

1. Ten times 5-Across
2. 3-Down plus 8-Down
3. One-half of 12-Across
4. 5-Across times 3-Down
5. 9-Across plus 23-Down
7. 18-Across plus 9-Down
8. Digits of 23-Down reversed
9. 1-Down plus 28-Down
10. Four times 5-Down
14. Three times 25-Down
15. 5-Across times 9-Down
18. 5-Down minus 8-Down
19. Ten times 21-Across
20. 17-Across plus 22-Down
22. 4-Down minus 19-Down
23. Five times 5-Across
25. Two more than 22-Across
27. Two less than 3-Down
28. Two more than 5-Across



Solution is on page 60

SQUARE LOGIC

Each letter in the diagram below stands for a number from 1 through 25. Using the ten clues, can you deduce the number represented by each letter? As you will see from the clues, when all the numbers have been correctly entered into the diagram, it will be a Magic Number Square. As each number from 1 through 25 is used only once (clue 1), you will find it helpful to cross out each number as you place it in the diagram. **Solution is on page 60.**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CLUES

1. Only the whole numbers from 1 to 25 are used. Each number is used only once, and all twenty-five numbers are used.
2. The five numbers in each row across, each column down, and each of the two diagonals add up to 65.
3. The four corner squares, A, E, U, Y, and the center square, M, also add up to 65.
4. The squares D, H, O, Q, and U contain numbers greater than 20.
5. B is one-half of K and one-third of Y.
6. I is one-half of J and one-third of Q.
7. R is one-half of N and one-third of D.
8. X is one-half of F and one-third of V.
9. H is the sum of K and Y.
10. I is the sum of R and M.

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O
P	Q	R	S	T
U	V	W	X	Y

LOGIC PROBLEM
CHALLENGER

14. EUROPEAN SUMMER

by Kevyn Dymond

Ms. Johnson and five other travelers each had an extended vacation in Europe this past summer. They all departed on international flights out of New York City on the same day, and all arrived on return flights five weeks later. While in Europe, each traveler spent one continuous week in each of five different countries, entering and exiting each country exactly once. Of course, no two travelers visited the same country during the same week. From this information and the clues below, can you determine for each traveler, his or her full name and itinerary? (Note: Bob and Rich are men, and Chris, Pat, Terry, and Val could be either men or women.)

1. Norgard visited Italy sometime after Overton and sometime before Kingman (who is not Chris).
2. Pat (who is not Muerton) spent week 1 in the same country where Langner (who is not Bob) spent week 5.
3. Chris, Pat, and Val each flew from Frankfurt, Germany, to Milan, Italy, one week after each had departed from Holland.
4. The Eurostar high-speed train through the English Channel was a very popular route. Bob, Terry, Rich, and Muerton (none of whom arrived in Denmark by plane) each rode the train from London, England, to Paris, France.

Solution is on page 65.

The fill-in chart below was found to be most helpful in solving this problem.

First name	Last name	Week 1	Week 2	Week 3	Week 4	Week 5

CROSSMATH

This looks like a crossword, but it involves numbers, not words. The numbers given in the clues columns are the answers to simple math problems; the numbers you enter into the diagram will form the problems which result in those answers. All the arithmetic symbols (+, −, x, ÷) have already been entered into the appropriate squares in the diagram. Use the symbols, the crossing numbers, and a bit of logic to determine the digit to enter into each blank square (one digit per square). An important thing to remember: The arithmetic is to be done in the order in which it reads, from left to right or top to bottom — for example, 1 + 2 x 3 equals 9 (1 + 2 = 3; 3 x 3 = 9). If done in any other order, your solution won't work. Arithmetic signs at the beginning or end of a problem (as in 11-Across) should be ignored. You will never use zero as the first digit of a number, though there may be zeroes used as later digits. There are no negative numbers used here; nor are there any fractions used. If you need help getting started, you'll find the correct entry for 6-Across on page 66.

Solution is on page 63.

ACROSS

1. 93
6. 10
11. 120
13. 37
16. 10
17. 39
18. 31
20. 124
21. 2
24. 6
25. 53
26. 65
27. 36
28. 3
29. 1
31. 16
32. 8
33. 18
34. 1
36. 2
38. 4
39. 15
41. 48
44. 15
46. 60
48. 154
51. 46
52. 50
53. 36
55. 6
56. 36
57. 69
58. 4
59. 33

DOWN

1. 4
2. 15
3. 28
4. 4
5. 2
6. 2
7. 100
8. 8
9. 40
10. 69
11. 90
12. 65
14. 108
15. 27
19. 2
22. 16
23. 10
28. 24
30. 12
34. 30
35. 106
37. 2
38. 18
39. 7
40. 22
42. 61
43. 80
45. 2
46. 37
47. 25
49. 64
50. 83
54. 5
55. 16

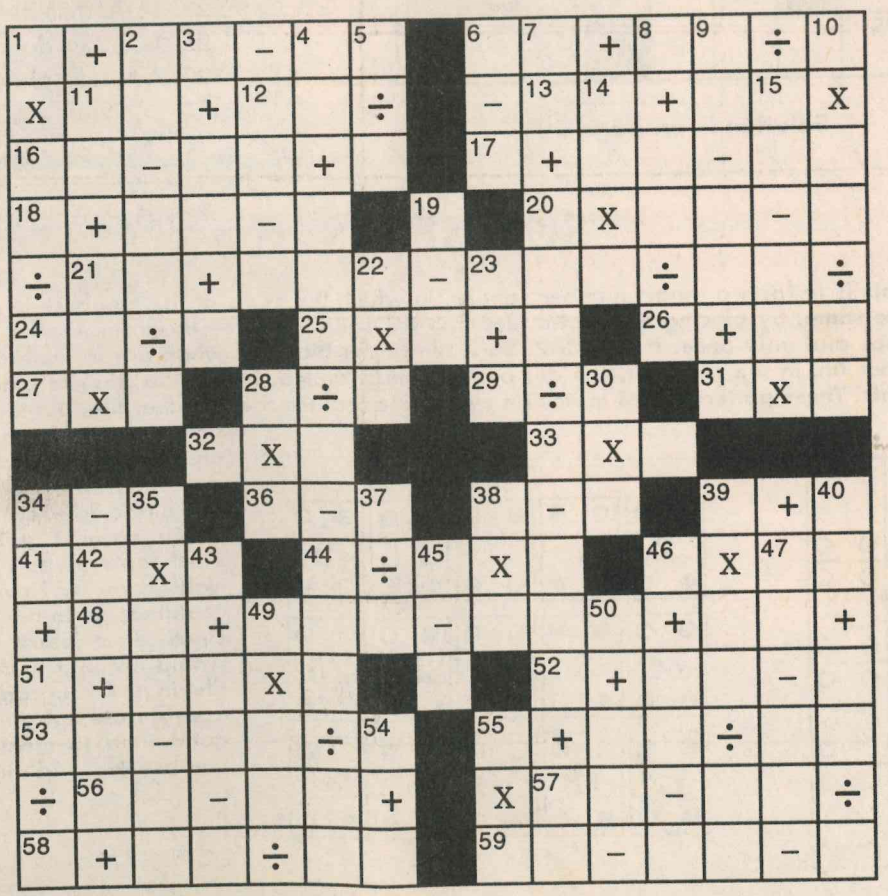


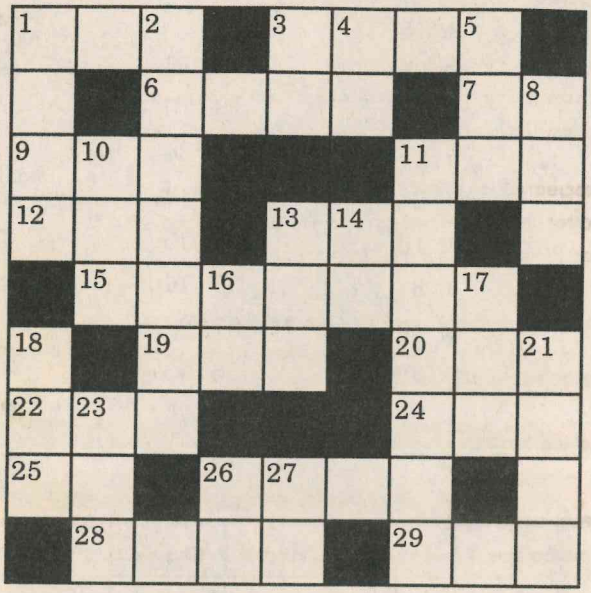
FIGURE LOGIC 10
CHALLENGER

by Linda Thistle

Directions for solving Figure Logics are on page 9.
NOTE: Each letter used in the clues represents a different digit from 1 to 9.
If you need help starting this puzzle, a help is on page 66.

ACROSS

1. 13-Across times R
3. 22-Across times P
6. 28-Across plus D
7. 26-Down minus 4-Down
9. 8-Down minus 5-Down
11. 19-Across times T
12. 3-Across minus 20-Across
13. 26-Down plus 27-Down
15. Its digits spell REDWOOD
19. 14-Down times 26-Down
20. 19-Across minus 24-Across
22. 13-Down times O
24. 16-Down times E
25. 14-Down plus 16-Down
26. 21-Down times T
28. 3-Across times W
29. 14-Down times 16-Down



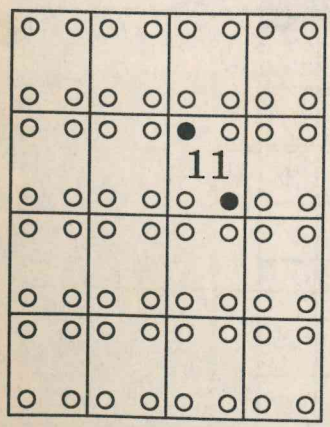
DOWN

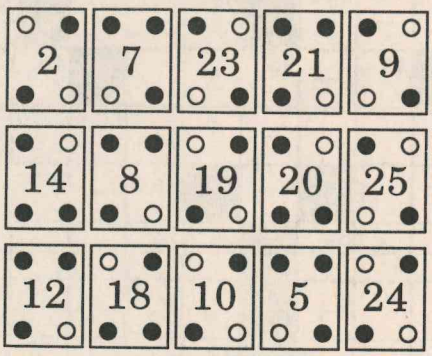
1. 26-Across minus D
2. 11-Down divided by D
3. 4-Down minus R
4. 27-Down divided by W
5. 13-Across plus 24-Across
8. 22-Across plus 17-Down
10. 20-Across times R
11. Its digits spell SPOTTED
13. Its digits spell OWL
14. 3-Down plus O
16. 18-Down divided by S
17. 3-Down times 16-Down
18. 19-Across minus 4-Down
21. 24-Across times L
23. 13-Across plus 17-Down
26. 1-Across divided by L
27. 7-Across plus 16-Down

Solution is on page 60

SUM SPOTS

The idea of Sum Spots is to form a magic number square, in which the sums of the numbers in each row, column, and diagonal are the same, by placing numbered tiles into the squares of the diagram. In this puzzle, the sum is 57. Use each tile once and only once. HANDICAP: Each tile has a black or white dot in each corner. As a tile is placed next to another tile in the diagram, the dot patterns must match, black dots next to black dots and white dots next to white dots. These patterns must match on every side that touches another tile, but tiles that touch diagonally do not have to match. For example, the 14 tile could go to the right of the 7 tile, since the 14 tile has black dots in its upper- and lower-left corners and the 7 tile has black dots in its upper- and lower-right corners. However, the 14 tile could not go to the right of the 2 tile, since their black and white dots would not match. As you place each tile in the diagram, blacken in the appropriate dots in all corners. It is a good idea to cross off each tile as you use it. **Solution is on page 60.**





LOGIC PROBLEM
CHALLENGER

15. CATALOGING DESIGNS

by Mary A. Powell

For the final semester, the students at Overland School of Art and Design were to create — and attempt to market — something useful. Just days before the idea deadline, five of the students were out having coffee, bemoaning the fact that they had no ideas, no imagination, and very little time left. "At this rate, we're all going to fail!" said Toni. Nancy crossed the cafe, picked up a stack of old magazines yellowing in the front window, and brought them back to their table. "Here, maybe we can get some ideas from these magazines." Herb flipped through the Overland Office Supplies catalog, and turned up his nose. "So boring!" he declared. "Office supplies *are* boring," Amber replied. "Let's work with it!" The five quickly sketched out several designs, then drew up a proposal to the president of the office supply company. Each student submitted five designs, and each sold one of them to be displayed once on checks, once on address labels, and once on notecards, all to be for sale in the upcoming issue of the catalog. No two students' designs appeared on the same page. From this information and the clues below, can you determine for each student, his or her full name, chosen design, background color, and the pages on which his or her checks, labels, and notecards appeared in the catalog?

1. Pages with even numbers were on the left; no two facing pages contained the same design.
2. Glenn's checks faced notecards depicting a white kitten.
3. Ms. Loring's labels were on a page that faced notecards with a white background.
4. Amber's labels appeared eight pages after her notecards, which appeared five pages after her checks.
5. The first item to appear had a yellow background, and it depicted labels on page 6. The last item depicted checks with a yellow rose on page 60.
6. Herb and Knight both chose flower designs; one of each appeared on pages 22 and 23.
7. The first item featuring the green hummingbird appeared after the first item with a green background.
8. Toni's checks faced Davison's labels; Toni's checks appeared 29 pages after her notecards.
9. Fielding's notecards faced checks with a brown background.
10. Amber's notecards appeared 20 pages after the labels with purple violets; neither faced any other item.
11. Glass's checks appeared ten pages before the notecards featuring the brown teddy bear, which appeared 11 pages before the checks with the pink background. (Note: Three designs are listed here.)
12. Nancy's notecards appeared 37 pages after her labels.
13. The notecards on page 7 did not feature a yellow rose and did not have a white background.
14. All the notecards were on odd-numbered pages.

Solution is on page 65.

The fill-in chart below was found to be most helpful in solving this problem.

First name	Last name	Design	Background	Checks page	Labels page	Notecards page

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Dell Crossword Annual Winter issue, $2.50 ($3.50, Canada)	**November 17**
Official Crossword Puzzles December issue, $2.50 ($3.50, Canada)	**November 17**
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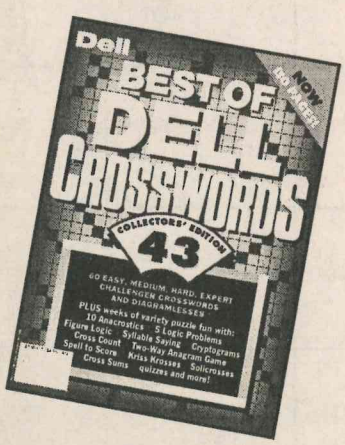

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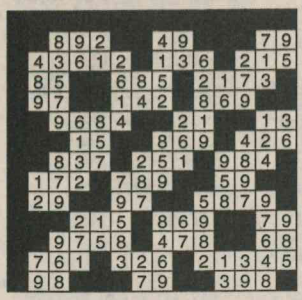
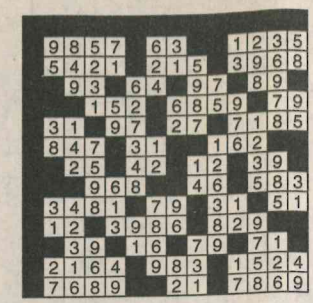
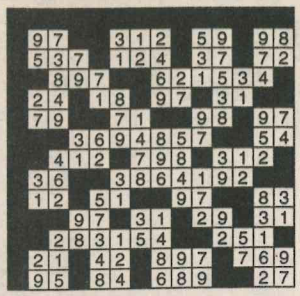


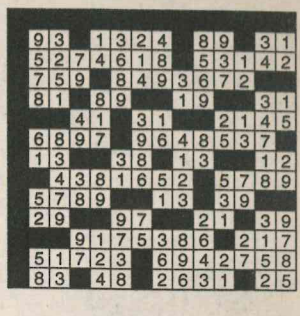
CROSS SUMS 2



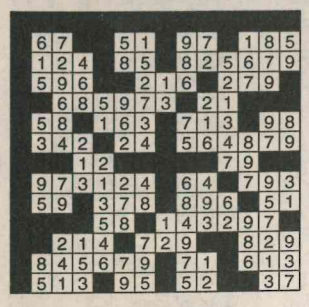
CROSS SUMS 3



CROSS SUMS 4



CROSS SUMS 5



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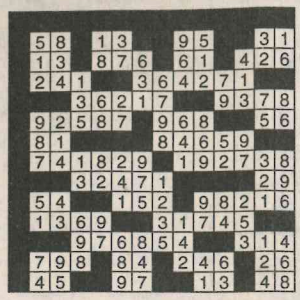

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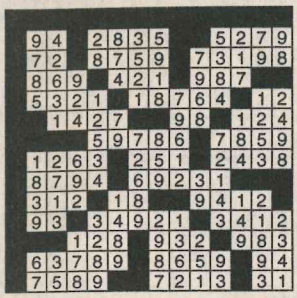

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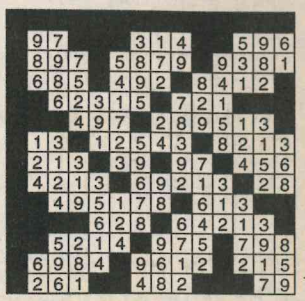

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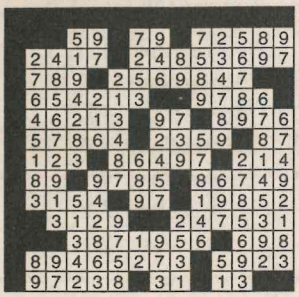

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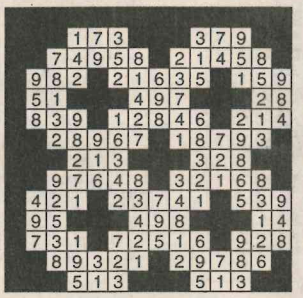

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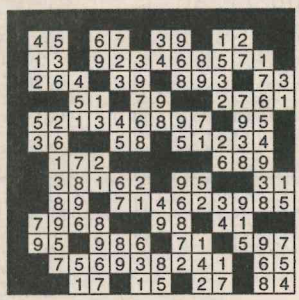

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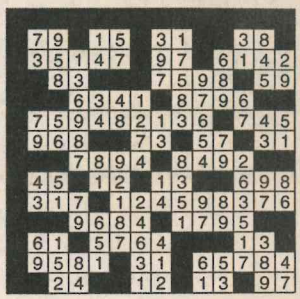

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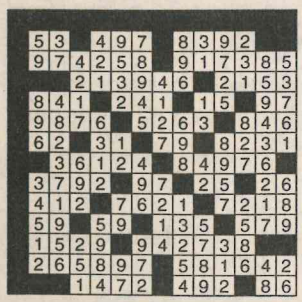

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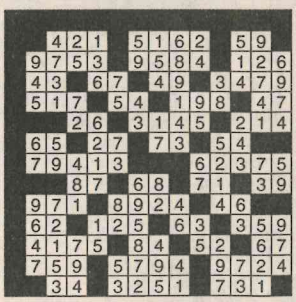

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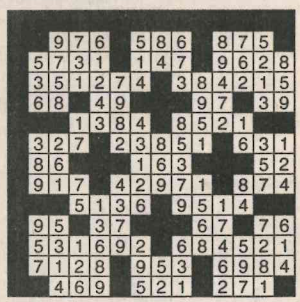

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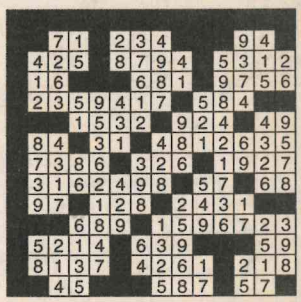

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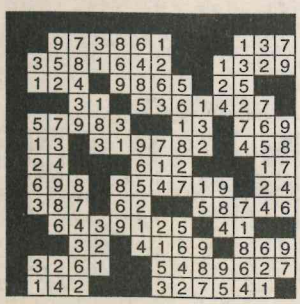

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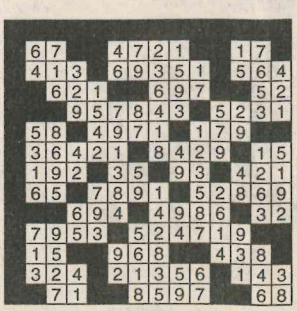

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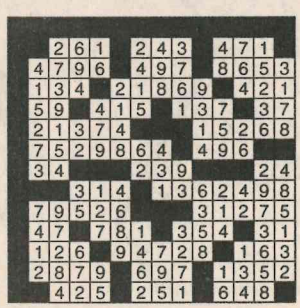

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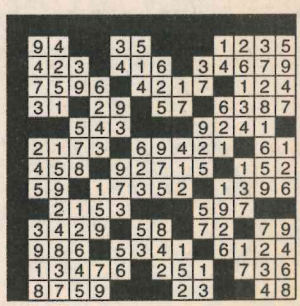


FIGURE LOGIC 1

		5	9	0	4	9		
	1	6	8		2	4	3	
3	8		8	7	2		7	6
5	8	8	0		5	4	6	0
3		9				4		2
4	9	3	5		1	1	7	2
4	7		1	0	5		2	1
	2	1	8		2	6	0	
		9	5	5	6	5		

FIGURE LOGIC 2

		2	1			1	1	9
7	6	5			9	6	2	8	8
3	7		8	3	3		5	9
1	7	8	5		2	3		
		5	1			9	6	
			6	2		3	1	6	2
1	7			9	6	9		4	3
6	4	3	2	8			4	0	8
		5	4	4			2	2	

FIGURE LOGIC 3

		2	8	4		1	3	9
4		4	4	5	2	1		4
1	8		6	9	5		1	1
7	0	5	6		1	4	7	7
	6	2				7	7	
2	5	0	2		1	2	2	4
1	6		4	2	2		4	0
1		3	4	5	9	6		6
	5	5	8		1	8	6	

FIGURE LOGIC 4

	4	3	0		1	7	2	
1	1	1				9	1	5
7	9	6	2		2	6	5	2
1		2	5	1	2	5		8
			8	3	1			
6		2	2	1	2	3		1
7	1	6	5		5	1	6	5
2	3	5				5	1	9
	2	4	2		5	2	7	

FIGURE LOGIC 5

4	7	6	1		4	3	5	6
2		9	9		2	2		7
2	3		8	4	0		8	2
5	3	4		2		6	9	0
		8	4		9	9		
2	3	4		8		1	5	3
1	0		1	1	9		2	5
0		6	5		5	1		4
6	5	6	1		2	7	0	4

FIGURE LOGIC 7

	6	2	1		6	1	2	
4	5		8	7	3		7	2
5			8					1
9	9		1	3	5		3	6
	1	6	2		8	3	7	
2	8		6	7	5		8	1
6			3					7
1	5		3	8	7		5	1
	4	1	4		1	9	8	

FIGURE LOGIC 8

		4	2	2		1	3	
	2	6	3	1		4	2	7
3	3	5			7	0	1	6
4	4		4	5	6	3		
2	1	3	5		5	2	6	2
		4	3	1	4		4	3
1	1	5	6			3	5	1
2	0	1		3	8	2	7	
	2	2		4	7	4		

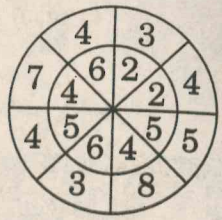
FIGURE LOGIC 9

		1		9	3		5	
	1	5		1	4	1	5	1
1	3	0	5			8	7	0
6	8		5	8	2	0		
7	0		2	2	5		1	3
		4	0	5	0		3	0
2	7	3			5	2	2	0
1	5	5	3	1		7	3	
0			2	7		5		

FIGURE LOGIC 10

3	5	1		1	1	8	3	
7		7	1	0	3		2	6
3	6	4				8	5	8
9	6	2		1	1	7		9
	3	4	5	6	1	1	5	
4		4	2	9		2	2	1
1	6	9				2	0	8
6	3		3	7	4	4		7
	7	0	9	8		5	7	2

OUT AND AROUND



NUMBER PLACE 1

8	1	5	9	7	4	2	3	6
4	3	6	1	5	2	7	9	8
2	7	9	8	3	6	5	1	4
5	8	3	6	4	9	1	2	7
9	6	4	2	1	7	3	8	5
1	2	7	3	8	5	6	4	9
7	5	1	4	9	3	8	6	2
3	4	2	7	6	8	9	5	1
6	9	8	5	2	1	4	7	3

NUMBER PLACE 2

2	5	6	1	9	3	8	4	7
3	7	8	6	4	5	2	9	1
4	9	1	8	2	7	3	6	5
7	3	4	9	5	1	6	8	2
5	1	9	2	8	6	4	7	3
6	8	2	7	3	4	1	5	9
1	2	5	4	7	8	9	3	6
9	4	3	5	6	2	7	1	8
8	6	7	3	1	9	5	2	4

NUMBER PLACE 3

7	4	6	2	1	3	9	5	8
3	8	2	4	5	9	1	6	7
5	1	9	8	6	7	3	4	2
9	6	3	5	2	1	8	7	4
1	2	7	3	4	8	6	9	5
4	5	8	9	7	6	2	3	1
6	7	4	1	9	2	5	8	3
2	3	5	6	8	4	7	1	9
8	9	1	7	3	5	4	2	6

BINGO PLAYS 1

	B	I	N	G	O	
P	4	(30)	38	60	65	P
L	1	(16)	36	57	74	L
A	15	(20)	FREE	53	75	A
Y	12	(28)	39	51	61	Y
S	5	(22)	42	47	67	S
	B	I	N	G	O	

BINGO PLAYS 2

	B	I	N	G	O	
P	3	18	31	48	(63)	P
L	7	21	42	(50)	65	L
A	14	23	FREE	52	68	A
Y	11	(29)	37	59	70	Y
S	(13)	30	36	60	73	S
	B	I	N	G	O	

NUMBER PLACE 4

2	8	5	6	7	3	1	4	9
9	6	1	8	4	2	7	3	5
4	3	7	9	1	5	6	8	2
6	2	8	3	5	7	4	9	1
7	9	4	1	2	8	5	6	3
1	5	3	4	9	6	2	7	8
3	1	2	7	8	4	9	5	6
8	7	9	5	6	1	3	2	4
5	4	6	2	3	9	8	1	7

NUMBER PLACE 5

5	8	6	4	1	9	2	7	3
2	3	9	7	5	6	4	1	8
7	4	1	2	8	3	6	5	9
6	7	2	1	9	5	3	8	4
1	9	4	8	3	2	7	6	5
8	5	3	6	4	7	1	9	2
4	1	7	5	2	8	9	3	6
9	2	5	3	6	1	8	4	7
3	6	8	9	7	4	5	2	1

NUMBER PLACE 6

9	5	1	2	3	4	7	6	8
2	4	3	8	6	7	5	1	9
6	8	7	5	9	1	3	4	2
4	2	8	6	7	9	1	5	3
1	7	5	3	4	2	8	9	6
3	6	9	1	8	5	2	7	4
8	1	6	4	5	3	9	2	7
5	9	4	7	2	8	6	3	1
7	3	2	9	1	6	4	8	5

BINGO PLAYS 3

	B	I	N	G	O	
P	8	21	31	56	70	P
L	2	24	40	46	69	L
A	7	22	FREE	58	67	A
Y	(4)	(29)	(45)	(48)	(75)	Y
S	14	19	36	54	65	S
	B	I	N	G	O	

SQUARE LOGIC

17	5	13	21	9
4	12	25	8	16
10	18	1	14	22
11	24	7	20	3
23	6	19	2	15

SUM LOGIC

1.

4	14	7	28	9
19	10	17	5	11
18	4	13	8	19
5	19	20	15	3
16	15	5	6	20

2.

22	35	8	20	10
23	10	5	41	16
18	30	31	1	15
24	5	28	8	30
8	15	23	25	24

BLACK MAGIC

1.

■		0		0	■
	2				2	
	1		3		1	
0		■		■		0
		■	3	■		
2		■	2	■	2	1
■	2		0		1	■

2.

		1		3	■	
		■	■	■		3
		■		3	■	
	3	■	5	4	■	
		■	■	■	■	
					2	

CROSS NUMBERS

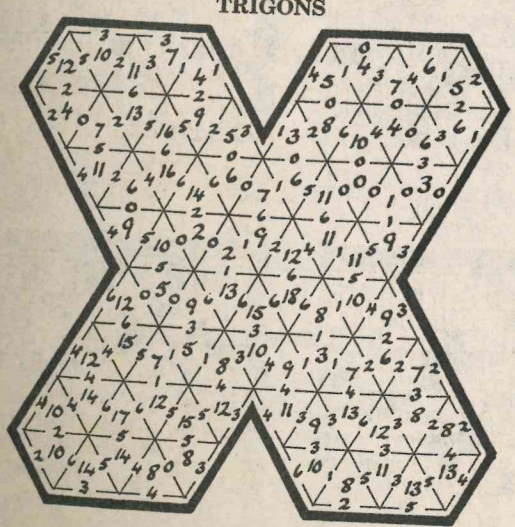
1.

16	÷	8	X	8	16
X		–		+	
3	X	6	–	5	13
+		X		+	
9	+	7	÷	2	8
57		14		15	

2.

15	+	1	÷	4	4
–		X		+	
5	+	7	–	6	6
÷		+		–	
5	+	3	÷	8	1
2		10		2	

TRIGONS



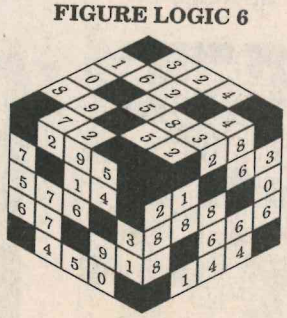
GO FIGURE!

	9	8	7
6	5	4	3
2	7	1	4
4	3	2	

SUM SPOTS

8	5	21	23
25	19	11	2
10	9	18	20
14	24	7	12

FIGURE LOGIC 6



GRIDDIGITS

1.

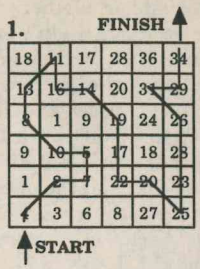
2	3		4	5
1	2	3		6
5		6	8	7
3	5	4	6	
4	6	5	7	3

2.

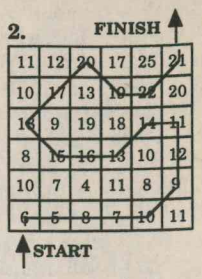
	8	6	9	7
7	6	5		8
8	7		7	6
5		4	6	5
6	2	3	5	4

MARCHING ORDERS

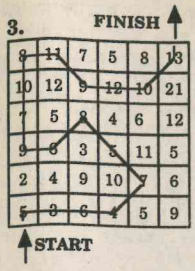
1.



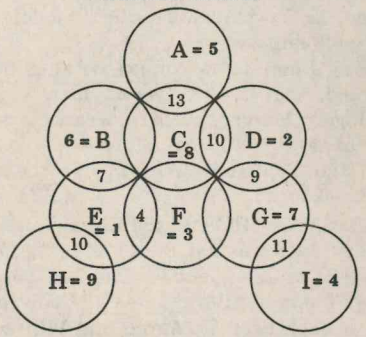
2.



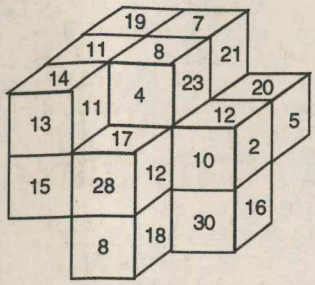
3.



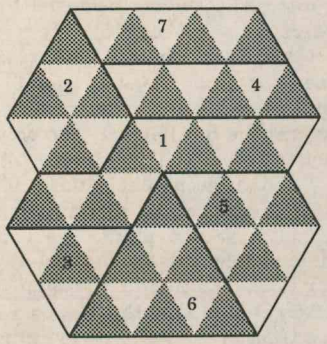
CIRCLE MATH



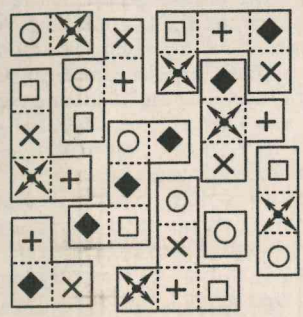
ON THE SURFACE



TRACE ELEMENTS



JIGSAW LOGIC



Your solution may be an upside-down version of this.

MYSTERIOUS FOOTPRINTS

The footprints are, in order: 8, 5, 1, 4, 6, 9, 6, 2, 1 = 42.

ANIMAL ADDITION

G = 4; M = 3; O = 8.

NUMBER FILL-IN

8	11	14	17	20	23	26	29		33	40	47	54	61	68
13		21		29			38		43		59			83
18		28		38	41	44	47	50	53		71			98
23	29	35	41	47			56		63	73	83	93	103	113
28				56	59	62	65		73					128
33	41	49	57	65		66						124		143
38		52				70	81	92	103	114	125	136	147	158
43		55		59		74		99		118		148		
48	53	58	63	68	73	78		106		122		160		200
				77				113		126	149	172	195	218
62	68	74	80	86		110	115	120	125	130		184		236
68		79		95		117						196		254
74		84		104		124		80	112	144	176	208	240	272
80		89		113		131		117		174				290
86	90	94		122	130	138	146	154		204	230	256	282	308

MAGIC NUMBER SQUARE

32	10	34	24
20	38	14	28
22	36	12	30
26	16	40	18

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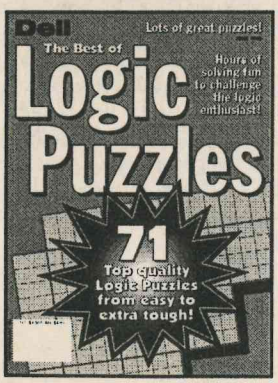
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LOGIC PROBLEM 1

The glue used on the first-place creation wasn't peanut butter (clue 1), jelly (clue 5), or marzipan (clue 6); it was icing. The glue used with the pita bread wasn't icing or peanut butter (clue 2) or marzipan (clue 6); it was jelly. Since the vehicle that used pita didn't place first, then by clue 6, the pita vehicle placed second, Marcella's vehicle placed third, and the vehicle glued with marzipan placed fourth. By elimination, the third-place vehicle was glued together with peanut butter. The soda-cracker vehicle placed first (clue 1), and was Jacob's (clue 5). The person who used marzipan wasn't Ryan (clue 4); Christy used marzipan, and Ryan used jelly. Christy didn't use cookies (clue 3); she used graham crackers, and Marcella used cookies. In summary, in winning order:

Jacob, soda crackers, icing
Ryan, pita bread, jelly
Marcella, cookies, peanut butter
Christy, graham crackers, marzipan

LOGIC PROBLEM 2

The three women are Dr. MacNeil's patient, Ms. Fisher, and the one who saw the plastic surgeon (clue 2). By clue 3, Dr. MacNeil is Ms. Gibson's obstetrician, and by clue 7, Patty Stein is the woman who saw the plastic surgeon. Since Mark is Leeson (clue 1), by elimination, Bill is French. The woman who went to the primary-care physician isn't Sue (clue 6); she is Josie Fisher. By elimination, Sue is Ms. Gibson. The woman who saw Dr. Anderson isn't Josie (clue 5); she is Patty. The internist isn't Bill French's doctor (clue 4); he is Mark Leeson's doctor, and by elimination, Bill saw the allergist. Dr. Dennison isn't the internist (clue 4) or the primary-care physician (clue 6); he or she is the allergist. Mark's doctor is not Dr. Pauling (clue 1); Mark's doctor is Dr. Sweet, and Josie's doctor is Dr. Pauling. In summary:

Josie Fisher, Dr. Pauling, primary-care physician
Mark Leeson, Dr. Sweet, internist
Sue Gibson, Dr. MacNeil, obstetrician
Bill French, Dr. Dennison, allergist
Patty Stein, Dr. Anderson, plastic surgeon

LOGIC PROBLEM 3

The company involved in the fourth merger announced wasn't either Komic Kard (clue 1) or Glimmer Toothpaste (clue 3), so Best Foot or Heavenly Healthfoods was the fourth merger announced. Ellen didn't found Heavenly (clue 2) or Best Foot, which was established by a man (clue 4), so Ellen's merger wasn't the fourth one announced. The fourth merger to be announced didn't involve either Peter's (clue 1) or Sam's company (clue 3); the merger involving Cathy's company was fourth to be announced. Cathy didn't found Best Foot (clue 4); she founded Heavenly. The Conglomerinc merger didn't involve Glimmer or Heavenly (clue 3) or Best Foot (clue 4); it involved Komic. Komic wasn't founded by Peter (clue 1) or Sam (clue 3); Komic was founded by Ellen. Sam didn't found Glimmer (clue 3); he founded Best Foot, and Peter founded Glimmer. The merger involving Ellen's Komic wasn't announced in the third week's issue (clue 1); it was announced either in the first or second issue. By clue 5, then, Sam's merger wasn't announced in either the first or second issue; it was announced in the third issue, and Ellen's was announced in the first one. By elimination, Peter's merger was announced in the second issue. Supergroup's merger was announced in the third issue and involved Sam's Best Foot (clue 1). Cathy's Heavenly didn't merge with Biggco (clue 2); Cathy's company merged with Teknomix, and by elimination, Peter's Glimmer merged with Biggco. In summary, in week order:

Ellen, Komic Kard, Conglomerinc
Peter, Glimmer Toothpaste, Biggco
Sam, Best Foot, Supergroup
Cathy, Heavenly Healthfood, Teknomix

LOGIC PROBLEM 4

The nine-year-old is the oldest, and his or her parent is in sales (clue 1). Kwan, who is five, is the youngest (clue 5). The eight-year-old worked the fax machine (clue 6), and Josh is six years old (clue 8). Since no two children are the same age (clue 5), the fifth child is seven. The nine-year-old is not Shari (clue 3), Emily (clue 4), or Katie (clue 7); he is Peter. He worked the printer (clue 6). Since Josh is six, five-year-old Kwan didn't use the postage meter (clue 7). Kwan also didn't use the copier (clue 2); Kwan used the computer. Mrs. Kwan works in data entry (clue 2). Kwan's first name is not Emily (clue 4) or Katie (clue 7); it is Shari. Josh's parent is the accountant and Mathis is the seven-year-old (clue 3). By clue 2, Mathis did not work the copier; Josh did, and his last name is Taylor. By elimination, Mathis worked the postage meter. Katie is the eight-year-old and Peter's last name is Gorski (clue 7). By elimination, the Mathis child is Emily. Emily's parent works in customer service (clue 4). By elimination, Katie's last name is Lopez, and by clue 4, her parent works in purchasing. In summary:

Peter Gorski, 9, printer, sales
Shari Kwan, 5, computer, data entry
Katie Lopez, 8, fax, purchasing
Emily Mathis, 7, postage meter, customer service
Josh Taylor, 6, copier, accounting

LOGIC PROBLEM 5

Leiber got the golf-club covers (clue 2). The videotape was given at Alice's restaurant (clue 5). Since four different men are mentioned in clue 1, the cookbook was given in September, they met at Charlie's in November, the first-aid kit was given in March, and they ate at Bert's in June. By clue 4, Leo's birthday is in June and the watch was given in August. By clue 6, the coffees were given in June, Virgil's birthday is in September, they ate at Dot's in August, and the model car was given in November. Sagi's birthday isn't in March or November (clue 3); it is in August. The March birthday isn't Leiber's (clue 2); it's Torrey's, and the November birthday is Leiber's. The watch recipient didn't get the wrist splint (clue 3); he got the map. By elimination, the one who got the coffees got the wrist splint. Since the videotape recipient isn't the do-it-yourselfer (clue 5), he didn't get the first-aid kit (clue 1); he got the cookbook, and the one who got the first-aid kit got the sweater. By clue 5, they ate at Alice's in September, and by elimination, at Eileen's in March. In summary:

Leiber, November, Charlie's, model car, golf-club covers
Leo, June, Bert's, coffees, wrist splint
Sagi, August, Dot's, watch, map
Torrey, March, Eileen's, sweater, first-aid kit
Virgil, September, Alice's, videotape, cookbook

LOGIC PROBLEM 6

The winner was not Becky (clue 3), Todd (clue 6), or Jack (clue 7). The first person to quit was not Becky (clue 3), Todd (clue 6), or Jack (clue 7). Aaron and Will were the winner and the first person to quit, in some order. The sundae belonged to the third person to quit (clue 5). The winner did not have the banana split (clue 2), brownie (clue 4), or the float (clue 6); the winner had the parfait. By clue 1, the parfait was the B-1 Bomber. The brownie was not the treat of the first one to quit (clue 4), or the second one (clue 8); it was the treat of the person who quit fourth, who came in second place. The banana split did not belong to the first one to quit (clue 2); it was the treat of the second one to quit. By elimination, the root-beer float was the treat of the first one to quit. The wrestler was the first to quit (clue 2). The Wide Load did not belong to the third one to quit (clue 3); it was the treat of the one who quit fourth. Also by clue 3, Becky was not the second to quit; she was the third, and the football player was the second to quit. Jack was the fourth person to quit (clue 7), and by elimination, Todd was the second to quit. By clue 4, the rugby player was the winner. Jack was not the boxer (clue 8); he was the shot-putter, and Becky was the boxer. The Cannonball was neither the boxer's treat nor was it the treat of the second one to quit (clue 8); the Cannonball was the treat of the first to quit. Also by clue 8, Aaron was not the first eliminated; Will was, and Aaron was the winner. The Slam Dunk belonged to the third person to quit (clue 4). By elimination, the Superbowl belonged to the second to quit. In summary:

Aaron, rugby player, B-1 Bomber, parfait, winner
Jack, shotputter, Wide Load, fudge brownie, 2nd place
Becky, boxer, Slam Dunk, sundae, 3rd place
Todd, football player, Superbowl, banana split, 4th place
Will, wrestler, Cannonball, root-beer float, 5th place

LOGIC PROBLEM 7

At least two of the buyers mentioned are men: Chris and the one who bought the white car (clue 9). Two women are Kit (clue 5) and Terry (clue 9). A woman bought the black car (clue 5), and she is not Terry (clue 1) or Kit (clue 5), so there are three women buyers and two men. A man bought the silver car (clue 2), so he is Chris, and by elimination, the two who bought the white and black cars are Pat and Sandy, in some order. A man bought the car with power seats and it is not silver (clue 10). He is not Pat (clue 6); he is Sandy. By elimination, Pat is the woman who bought the black car, and Sandy bought the white car. A woman bought the car with a sunroof (clue 8), and it is not black (clue 4). The convertible is not silver (clue 2) or black (clue 4), so the convertible and the car with a sunroof were bought by Terry and Kit, in some order. The woman who bought for a cross-country trip did not buy either the one with a sunroof or the convertible (clue 4). By elimination, she is Pat. The person who won the lottery is not Terry (clue 1), and did not buy either the silver car or the one with power seats (clue 10). By elimination, the lottery winner is Kit. Kit did not buy the car with the sunroof (clue 8); she bought the convertible, and Terry bought the car with the sunroof. A woman was replacing an old car (clue 7). By elimination, she is Terry. The one who bought the new company car did not get power seats (clue 3); he is Chris, and Sandy needed the extra car. Chris did not buy a CD player (clue 3); he got the leather interior, and Pat got the CD player. Jan did not sell a car to Terry (clue 7), Chris (clue 9), or Kit or Pat (clue 11); Jan's customer was Sandy. Gordy did not sell the silver (clue 2) or black car (clue 5), or the one with a sunroof (clue 11); he or she sold a car to Kit. Jacky's customer was a man (clue 11); he or she sold a car to Chris. Billy did not sell a car to Pat (clue 6); Billy sold to Terry, and Rusty sold to Pat. Terry did not buy the red car (clue 6); she bought the blue car, and Kit bought the red car. In summary:

Chris, new company car, leather interior, silver, Jacky
Kit, won lottery, convertible, red, Gordy
Pat, cross-country trip, CD player, black, Rusty
Sandy, extra car, power seats, white, Jan
Terry, replace old car, sunroof, blue, Billy

LOGIC PROBLEM 8

From the information obtained in Logic Problem 7 and the introduction here, three women bought cars from men, and two men bought cars from women. Women bought the first and last cars sold (clue 8). Also by clue 8, Mr. Vargas didn't sell either of these, so he sold to the third woman. The first and last sales were not made by a woman (clue 8), so they were not made by Ms. Scott (clue 2). Meyers didn't sell last (clue 2) or first (clue 7), so Meyers is a woman. Mr. Gold did not buy from Meyers (clue 2); he bought from Scott. Also by clue 2, Mr. Gold is not Sandy; Mr. Gold is Chris, and bought from Jacky Scott. By elimination, Jan, who sold the car to Sandy, is Meyers. Olinger did not made the last sale (clue 3), so the last sale was made by Lord, and Olinger made the first sale. A woman bought the Rio (clue 5). The Rio was not sold by Olinger (clue 3), or purchased last (clue 5), so it was sold by Mr. Vargas. By clue 1, Ms. Green is not Terry, who bought the car with the sunroof, or Pat (clue 6); she is Kit. Since neither Terry (clue 1) nor Pat (clue 6) bought the Las Vegas, Kit did. It was not purchased last (clue 1), so it was bought first, and her salesman was Gordy Olinger. Meyers sold a car after a purchase by Brown (clue 7), but before Ms. Scott sold a car (clue 2), so Jan Meyers sold the third car to Sandy, Brown bought the second car, and Ms. Scott sold the fourth car to Chris Gold. By elimination, Vargas sold the Rio second, and Pat and Terry were the second and fifth customers, in some order. The Knight was sold before at least two other cars (clue 4); it was the third sold. Gray did not buy the Knight (also clue 4), so Gray was the fifth customer, and Rose was third. Since Pat bought the black car, she is not Gray (clue 4). By elimination, Pat bought the second car from Rusty Vargas, and Terry, the fifth customer, from Billy Lord. Terry did not buy the Arc (clue 1); she bought the Star, and Chris bought the Arc. In summary, in purchase order:

Kit Green, Las Vegas, Gordy Olinger
Pat Brown, Rio, Rusty Vargas
Sandy Rose, Knight, Jan Meyers
Chris Gold, Arc, Jacky Scott
Terry Gray, Star, Billy Lord

LOGIC PROBLEM 9

From clues 4 and 5, by pairing the types of bouquets carried by the brides with the boutonnieres worn by the grooms, Nomi married Mr. Thompson, Carrie married Aaron McBurney, Mr. Horowitz is from Chicago, Mr. Little is from Pittsburgh, and Alexander and his bride were to honeymoon in Monaco. By clue 3, Liz is 26, Alexander's bride is 24, Mr. Little's bride is 22, the Nice-bound bride is 20, and Geoff's bride is 18. By elimination, Liz married Mr. Horowitz and Geoff is Thompson. By clue 2, Geoff and Nomi planned to honeymoon at the Provence, and 26-year-old Liz married Duke. By elimination, Carrie is 20, Peter is Little, and Alexander is Solon. By clue 3, Carrie and Aaron planned to honeymoon in Nice. Alexander Solon didn't marry Crystal (clue 1); he married Nancy, and Crystal married Peter Little. Also by clue 1, Crystal and Peter did not plan a Cancun honeymoon; Duke and Liz Horowitz did, and Crystal and Peter were bound for the Virgin Islands. Alexander Solon hails from neither Los Angeles (clue 1) nor New Orleans (clue 6); he is from Knoxville. Aaron McBurney is not from Los Angeles (clue 1); he is from New Orleans, and Geoff Thompson is from Los Angeles. In summary:

Carrie, 20, married Aaron McBurney from New Orleans; honeymooned in Nice
Nancy, 24, married Alexander Solon from Knoxville; honeymooned in Monaco
Liz, 26, married Duke Horowitz from Chicago; honeymooned in Cancun
Nomi, 18, married Geoff Thompson from Los Angeles; honeymooned in the Provence
Crystal, 22, married Peter Little from Pittsburgh; honeymooned in the Virgin Islands

LOGIC PROBLEM 10

Since Macy had a total score of six or less (clue 2) on the four holes, mathematically, she had to have at least two holes in one. By clue 1, she played the orange golf ball and made her holes in one on the first and fourth holes. Since they were the only two holes in one (clue 1), by elimination, she shot twos on holes two and three for a total score of six, and was the winner of the match. Andy did not play the tan (clue 3) or black golf ball (clue 5); his golf ball was violet. Juan scored a six on the fourth hole (clue 6); mathematically, his score was at least twelve. The player of the tan golf ball, whose score was ten (clue 3), was Doreen, and Juan's golf ball was black. Andy went over par just once, with a four on the second hole (clue 5). Doreen was over par on two holes (clue 3), so by clue 4, the player who scored two on each of the first three holes was Juan, and his total was twelve. The three scores thus far, in ranking order, are six, ten, and twelve. By clue 5, Andy placed third, so he scored eleven, and hit par on the first, third, and fourth holes. Since Doreen was over par on two holes (clue 3), mathematically, she was one over par on the first and fourth holes, and one under on the second and third holes for a total of ten. In summary, in winning order, with the scores on the four holes in order:

Macy, orange: 1, 2, 2, 1 = 6
Doreen, tan: 3, 2, 2, 3 = 10
Andy, violet: 2, 4, 3, 2 = 11
Juan, black: 2, 2, 2, 6 = 12

CROSSMATH

6	+	9	9	−	1	2		7	2	+	1	8	÷	9
x	5	0	+	7	0	÷		−	2	2	+	1	5	x
2	0	−	1	1	+	1		5	+	7	3	−	3	9
6	+	3	4	−	9		7		9	x	1	4	−	2
÷	4	0	+	6	3	8	−	4	9	4	÷	9	2	÷
3	0	÷	5		9	x	5	+	8		4	+	6	1
9	x	4		6	÷	2		6	÷	6		8	x	2
			8	x	1				2	x	9			
9	−	8		4	−	2		6	−	2		6	+	9
1	2	x	4		9	÷	3	x	5		2	x	3	0
+	2	2	+	4	0	1	−	3	0	4	+	3	5	+
8	+	3	8	x	1		1		9	+	4	5	−	4
9	3	−	2	1	÷	2		2	+	7	0	÷	1	2
÷	9	7	−	6	1	+		x	9	9	−	3	0	÷
6	+	8	6	÷	2	3		8	9	−	5	0	−	6

LOGIC PROBLEM 11

There are eight window seats, and they were occupied by, in some order: the secretary and mechanic (clue 1), the teacher (clue 5), the baker and waiter (clue 8), the actor (clue 11), and the doctor and plumber (clue 13). By elimination, the four inside seats were occupied, in some order, by the farmer, lawyer, architect, and rancher. The architect sat in seat B4 (clue 4). By clue 6, the farmer sat in seat B1, and the passenger from Qatar was the architect in seat B4. The lawyer sat in seat B2 (clue 3), and by elimination, the rancher sat in seat B3. The Hungarian was the lawyer in seat B2 (clue 10). The farmer is not from Venezuela or Greece (clue 1), India or England (clue 3), Canada (clue 5), Japan (clue 6), the USA (clue 9), New Zealand (clue 11), or Kenya (clue 12), so, the farmer is from Zimbabwe. The Japanese passenger sat in seat A1 (clue 2). The Canadian was not in row 4 (clue 14), so by clue 5, the Canadian sat in C1. Also by clue 5, the teacher sat in seat A4. The Greek passenger (clue 10) and the Kenyan passenger (clue 12) both sat in row 2, in seats A2 and C2, in some order. The passenger from India sat in seat A3 or C3 (clue 3). The passenger from England sat in seat A4 or C4 (clue 3). The rancher is not from Venezuela (clue 1) or New Zealand (clue 11); by elimination, the rancher is from the USA. The actor and the New Zealander did not sit at opposite ends of row 4, because the actor was not from England (clue 11); the New Zealander sat in row 3. By elimination, the passenger from Venezuela sat in row 4. The Venezuelan is not the teacher in seat A4 (clue 1); the Venezuelan sat in seat C4, and the teacher is from England. The passenger from India was in seat C3 (clue 3), and the New Zealander was in seat A3. The actor was in seat C3 (clue 11). By clue 13, the doctor and plumber sat in seats A1 and C4, in some order. By clue 8, the baker is from Greece and the waiter is from Kenya, and they sat in seats A2 and C2, in some order. The doctor and secretary sat in adjacent rows (clue 7). By clue 13, the doctor sat in seat C4, and the plumber sat in seat A1. The secretary was in seat A3 (clue 7). The Greek baker sat in seat C2 (clue 1). By elimination, the waiter from Kenya was in seat A2, and the mechanic was in seat C1. In summary:

A1: plumber, Japan
A2: waiter, Kenya
A3: secretary, New Zealand
A4: teacher, England
B1: farmer, Zimbabwe
B2: lawyer, Hungary
B3: rancher, USA
B4: architect, Qatar
C1: mechanic, Canada
C2: baker, Greece
C3: actor, India
C4: doctor, Venezuela

LOGIC PROBLEM 12

By clue 7, honey replaced sugar in one recipe and Ann did not omit eggs or sugar. Ann did not omit flour, since it was omitted in a recipe by a man (clue 8); she omitted either nutmeg or raisins. Flax seed was not substituted for nutmeg or raisins (clue 4), so Ann did not use flax seed. By clue 1, Doris and Ed did not use flax seed, and neither did Barry, since it was used by a woman. By elimination, Carla used flax seed. Carla did not omit nutmeg or raisins (clue 4) or flour (clue 8); she omitted eggs. She did not bake oatmeal cookies (clue 4), sugar cookies or snickerdoodles (clue 6), or peanut butter cookies (clue 7); she baked chocolate chip cookies. Peck is not Barry or Ed (clue 5) or Ann or Carla (clue 7); she is Doris. Doris Peck did not bake snickerdoodles (clue 1), sugar cookies (clue 5), or peanut butter cookies (clue 7); she baked oatmeal cookies. Honey did not replace sugar in oatmeal, peanut butter, or sugar cookies (clue 7); it was used in the snickerdoodles. Ann did not bake peanut butter cookies (clue 7), so she made the sugar cookies. Snickerdoodles were not baked by Ed (clue 1); Barry made snickerdoodles, and Ed made peanut butter cookies. Barry is not Ms. O'Dell, and he is not Moore (clue 2) or Cooke (clue 6); he is Baker. Flour was omitted from neither the oatmeal nor sugar cookies (clue 8); Ed omitted flour. Lemon was not substituted for flour or raisins (clue 3); it replaced nutmeg. Moore did not use chocolate chips, cocoa, or flax seed (clue 2); he or she used lemon. Moore, then, is Ann. Ed is not Ms. O'Dell; he is Cooke, while Carla is O'Dell. By elimination, Doris omitted the raisins in her oatmeal cookies. She didn't use cocoa (clue 5); she used chocolate chips, and Ed used cocoa. In summary:

Barry Baker, snickerdoodles, omitted sugar, added honey
Ed Cooke, peanut butter cookies, omitted flour, added cocoa
Ann Moore, sugar cookies, omitted nutmeg, added lemon
Carla O'Dell, chocolate chip cookies, omitted eggs, added flax seed
Doris Peck, oatmeal cookies, omitted raisins, added chocolate chips

LOGIC PROBLEM 13

By clue 2, three companies are headquartered east of the Mississippi, two are west, and the two western companies are the one that bought the warehouse and the one that bought the building on Commerce Court. Terry works for a company headquartered west of the Mississippi, but not the one that bought the warehouse (clue 1); Terry works for the company that bought the building on Commerce. Faisal works for a company headquartered west of the Mississippi, and is not Terry (clue 5); Faisal works for the company that bought the warehouse. Pat is not Jones or Faisal (clue 2) or Gold or Honshu (clue 4); Pat is Ibarra. Davis Ltd. is headquartered east (clue 3). It is not the one Pat works for (clue 4), so by clue 2, it is the one Jones works for. The company that bought the warehouse is not Eastern Corporation (clue 2) or Conners Group or Allied Enterprises (clue 5); it is Business Pros. The company that bought the building on Commerce is not Allied (clue 5); it is Conners, and by elimination, Pat works for Allied. Honshu is not employed by Conners (clue 4); Honshu works for Eastern, and by elimination, Gold works for Conners. Leslie is not employed by Davis (clue 3) or the company that bought the warehouse (clue 5); Leslie works for Eastern, and is Honshu. Terry did not arrange the deal on an office or apartment (clue 1) or a factory (clue 2); Terry arranged the deal on the strip mall. The deal for the office building was not negotiated by Leslie or Jones (clue 3); it was negotiated by Pat. Leslie did not negotiate the deal for the apartment (clue 1); Leslie negotiated the deal for the factory, and by elimination, Jones negotiated the deal for the apartment. Allied did not buy the building on Easy Street or Market Street (clue 3) or Primrose Lane (clue 5); it bought the building on Second Avenue. The building on Market is not the apartment (clue 1) or factory (clue 7); it is the warehouse. The factory is not on Easy (clue 6); it is on Primrose, and by elimination, the apartment is on Easy. Sandy was never interested in the building on Easy (clue 6), so Sandy is Faisal and was interested in the Market building, and by elimination, Robin is Jones and handled the negotiations for the Easy Street building. In summary:

Sandy Faisal, Business Pros, Market Street, warehouse
Terry Gold, Conners Group, Commerce Court, strip mall
Leslie Honshu, Eastern Corp., Primrose Lane, factory
Pat Ibarra, Allied Ent., Second Avenue, office
Robin Jones, Davis Ltd., Easy Street, apartment

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LOGIC PROBLEM 14

By the introduction, each traveler visited five out of a possible six countries, and no two visited the same country during the same week, so each country was visited once in each of the five weeks, and a total of five visits were made to each country. Four travelers spent a week in England followed by a week in France (clue 4). Since no two travelers visited the same country during the same week and there were five weeks total, the four travelers in clue 4 were in England and France, in that order, during weeks 1 and 2, weeks 2 and 3, weeks 3 and 4, and weeks 4 and 5. None of these four spent week 1 in France or spent week 5 in England. The person who spent week 1 in France is not the same person who spent week 5 in England because then five people would have made five visits to both France and England, and a sixth person could not have visited France or England, leaving only four countries in which to spend five weeks. One person spent week 1 in France and another person spent week 5 in England, and neither of these two people are among the four listed in clue 4. Whoever spent week 1 in Denmark arrived by plane, and this person is not among those listed in clue 4, and also cannot be the person who spent week 1 in France; the one who spent week 1 in Denmark spent week 5 in England. Three travelers spent consecutive weeks in Holland, Germany, and Italy, in that order (clue 3). Since there were five weeks total, those three travelers were in Holland-Germany-Italy during: weeks 1, 2, and 3; weeks 2, 3, and 4; and weeks 3, 4, and 5. By clue 3, Chris, Pat, and Val, in some order, were in Holland, Italy, and Germany during week 3. By elimination, the traveler who was in Denmark for week 1 and in England for week 5 is the person who was in Holland-Germany-Italy for weeks 2, 3, and 4. The person who spent week 1 in France was not Bob, Terry, or Rich (clue 4); he or she is Chris, Pat, or Val. By elimination, the person who spent week 1 in France visited Holland-Germany-Italy during weeks 3, 4, and 5. Also, this person did not spend week 2 in England, so by elimination, he or she spent week 2 in Denmark. Also by elimination, the person who spent weeks 1 and 2 in England and France is the one who spent week 3 in Denmark, and the person who spent weeks 4 and 5 in England and France is the one who spent weeks 1, 2, and 3 in Holland-Germany-Italy. We are now able to fill in all the weeks' destinations on the chart: The person who spent week 2 in Italy was in England for week 3; the person who spent week 1 in Italy was in England for week 2; the person who spent week 4 in Denmark was in Italy for week 1; the person who spent week 5 in Denmark was in Italy for week 2; the person who spent week 1 in Germany was in Italy for week 2; the person who spent week 4 in Holland was in England for week 1 and Germany for week 5; the person who spent week 5 in Holland was in Italy for week 1. The Holland-Germany-Italy-England-France trip was made by Chris, Pat, or Val (clue 3). Since this person is not Bob, Terry, or Rich, he or she is Muerton (clue 4). Pat spent week 1 in Denmark or France (clue 2). Also by clue 2, Pat did not spend week 1 in France because Muerton, not Langner, spent week 5 in France. By elimination, Pat spent week 1 in Denmark, and Langner spent week 5 in Denmark. Overton, Norgard, and Kingman all visited Italy, in that order (clue 1). Since Italy was visited by Langner in week 2 and by Muerton in week 3, Overton, Norgard, and Kingman were in Italy during weeks 1, 4, and 5, respectively. By elimination, Johnson made the England-France-Denmark-Holland-Germany trip. Chris is not Kingman (clue 1); Chris is Muerton, and Val is Kingman. Bob is not Langner (clue 2) or Johnson, a woman; he is Overton, and neither is Rich Ms. Johnson; he is Langner. By elimination, Terry is Ms. Johnson. In summary:

Chris Muerton, Holland, Germany, Italy, England, France
Pat Norgard, Denmark, Holland, Germany, Italy, England
Val Kingman, France, Denmark, Holland, Germany, Italy
Bob Overton, Italy, England, France, Denmark, Holland
Rich Langner, Germany, Italy, England, France, Denmark
Terry Johnson, England, France, Denmark, Holland, Germany

LOGIC PROBLEM 15

Each student created one design that was used on three items (introduction). The last student display was on page 60 with checks featuring a yellow rose, and labels with a yellow background on page 6 were the first display (clue 5). Since even-numbered pages were on the left (clue 1), the labels on page 6 faced the notecards on page 7 (clue 13). The notecards featuring a white kitten faced checks (clue 2), so those notecards were not the ones on page 7. The notecards on page 7 did not feature a green hummingbird (clue 7), brown teddy bear (clue 11), or rose (clue 13); they featured purple violets. One flower design was on page 22, facing the other on page 23 (clue 6). Since notecards with violets were on page 7 and labels with violets did not face any other design (clue 10), the checks with violets faced an item with a rose. Glenn's checks faced a kitten (clue 2), and Toni's checks appeared after page 23 (clue 8), so neither Glenn's nor Toni's checks featured violets. Amber's notecards appeared after page 7 (clue 4), as did Nancy's notecards (clue 12), so neither Amber's nor Nancy's notecards featured violets. By clue 6, Herb used violets and Knight used a rose. Knight's checks on page 60 were last, so faced nothing else (clue 1). Glenn's checks faced notecards (clue 2), and Toni's checks faced labels (clue 8). Amber's checks were not last (clue 4); Nancy is Knight. Since all notecards were on odd-numbered pages (clue 14), and notecards faced Ms. Loring's labels (clue 3), Ms. Loring's labels were on an even-numbered page. Amber's labels were eight pages after her notecards (clue 4), so they were on an odd-numbered page; Amber is not Ms. Loring, Toni is. Fielding's notecards faced checks (clue 9); Herb's notecards faced labels on page 6, and Amber's notecards did not face another item (clue 10), so Glenn is Fielding. Amber's checks appeared five pages before odd-numbered notecards (clue 4), so they were on an even-numbered page. Glass's checks appeared ten pages before odd-numbered notecards (clue 11), so they were on an odd-numbered page. By elimination, Amber is not Glass; Amber is Davison, and Herb is Glass. No design was on two facing pages (clue 1), so Glenn did not use the kitten (clue 2). Notecards with the kitten faced Glenn's checks (also clue 2), so they were not Amber's (clue 10); Toni's design used the kitten. Nancy's item on page 22 or 23 (clue 6) was not her notecards, which were 37 pages after her labels (clue 12). Her labels, then, were on an even-numbered page (clue 14), so Nancy's labels were on page 22, facing Herb's checks on page 23 (clue 6). By clue 12, Nancy's notecards were on page 59. The labels on page 6 were not Amber's (clue 4) or Herb's (clue 10); Toni's labels faced notecards with a white background (clue 3), and the notecards on page 7 did not have a white background (clue 13), so Glenn's labels were on page 6, and he used a yellow background (clue 5). The first hummingbird design was not on page 6 (clue 7), so Glenn used the teddy bear design, and Amber used the hummingbird. Herb's checks on page 23 came 10 pages before Glenn's notecards (clue 11) on page 33. Notecards with a white background faced Toni's labels (clue 3), so Toni's background was not white, and neither Amber's (clue 10) nor Herb's (clue 13) was white; Nancy used the white background. Nancy's notecards on page 59 faced Toni's labels (clue 3) on page 58. Herb didn't use the pink background (clue 11). Since Herb's checks faced Nancy's labels (clue 6), while checks with the brown background faced Glenn's notecards (clue 9), Herb used the green background. Toni's checks faced Amber's labels (clue 8), so Toni did not use the brown background (clue 9); Toni's background was pink, and Amber's was brown. Glenn's notecards on page 33 appeared 11 pages before Toni's checks (clue 11), which were on page 44, facing Amber's labels on page 45 (clue 8). Toni's notecards were 29 pages before her checks (also clue 8), so they were on page 15, facing Glenn's checks (clue 2), on page 14. Amber's notecards were eight pages before her labels (clue 4), so they were on page 37, and her checks were on page 32 (also clue 4). Amber's notecards were 20 pages after Herb's labels (clue 10), which were on page 17. In summary:

Amber Davison, green hummingbird, brown background, checks, p. 32, labels, p. 45, notecards, p. 37
Glenn Fielding, brown teddy bear, yellow background, checks, p. 14, labels, p. 6, notecards, p. 33
Herb Glass, purple violets, green background, checks, p. 23, labels, p. 17, notecards, p. 7
Nancy Knight, yellow rose, white background, checks, p. 60, labels, p. 22, notecards, p. 59
Toni Loring, white kitten, pink background, checks, p. 44, labels, p. 58, notecards, p. 15

FIGURE LOGIC HELPS

Figure Logic 1: 4-Down is 94.

Figure Logic 2: The first digit of 4-Down is 1 (clue 17-Across), so the first digit of 30-Down is 4 (clue 30-Down). By clue 1-Across, the first digit of 1-Across is 2, and by clue 23-Across, the first digit of 23-Across is 1. By clue 23-Down, the first digit of 2-Down is 1. Then, 1-Across is 23.

Figure Logic 3: The first digit of 13-Across is 1 (clue 19-Across), and the middle digit of 20-Down is 1 (clue 13-Across). 20-Down is either 310, 211, or 112 (clue 20-Down). 25-Across is two times 20-Down (clue 25-Across), so its middle digit is 2. 26-Down is the two middle digits of 4-Down (clue 26-Down), so 4-Down's second digit is 2. 7-Across is 20-Down squared (clue 7-Across), so it is either 96100, 44521, or 12544. Since its fourth digit is 2, 7-Across is 44521.

Figure Logic 4: The last digit of 10-Down is 0 or 5 (clue 10-Down), so the last digit of 12-Across is 0 or 5 (clue 12-Across). By clue 11-Down, the last digit of 11-Down is 5.

Figure Logic 5: The first digit of 26-Down is 1 (clue 26-Down). 27-Down is eight times 26-Across (clue 27-Down), so the last digit of 26-Across is 8 or 9. 26-Across, then, is either 108 or 119 and 27-Down is either 864 or 952, respectively. The first digit of 30-Across, then, is either 6 or 5. Since 30-Across is three times 31-Down (clue 30-Across), the first digit of 31-Down is either 1 or 2. 30-Across, then, is 61, 62, 51, or 52. The only combination evenly divisible by three is 51.

Figure Logic 6: The first digit of 18-B is 1 (clue 18-B). In addition, since 29-C is an even number (clue 2-A), by clue 18-B, the last digit of 26-A is 0.

Figure Logic 7: By clue 20-Across, the first digit of 21-Down is 1, so by clue 4-Down, the last digit of 4-Down is 7. By clue 8-Across, the first digit of 9-Down is 2, so 8-Across is 72.

Figure Logic 8: By clue 4, the first digit of 4-Down is 1, so by clue 5, the first digit of 20-Down is 1. By clue 1, 20-Down is 12.

Figure Logic 9: *Starting Box:* The first digit goes in the third box. *Help:* Since 17-Across is three times 23-Down (clue 17-Across), and 23-Down is five times 5-Across (clue 23-Down), 17-Across is fifteen times 5-Across. By clue 5-Across, 17-Across is the square of 5-Across, so 5-Across is 15.

Figure Logic 10: By clue 13-Across, the first digit of 13-Down is 1. By clue 13-Down, then, the letter O is 1.

DEDUCTION PROBLEM

The only day all four jobs could be done was Thursday. From John's statement, his jobs could have been done Tuesday, so they were the furniture moving and basement cleaning. Sam, who could have worked Wednesday, did the painting, and Hal did the yardwork.

SECRET SQUARES

29	15	7	16
2	21	24	20
17	8	14	28
19	23	22	3

CROSS SUMS HELPS

#1: 984	#11: 1532
#2: 7598	#12: 1274
#3: 5849	#13: 581642
#4: 9175386	#14: 695872
#5: 468	#15: 9628
#6: 84659	#16: 6135
#7: 79612	#17: 5361427
#8: 8412	#18: 957843
#9: 86749	#19: 3178
#10: 83126	#20: 6243

WHAT'S THE ORDER?

Of all the digits 1 through 9, eight are included between D and E, and they both have two correct answer digits in their combinations, so 5 is not a digit in the answer. By B, only one of the digits 1, 2, or 3 is in the answer. If the answer's third digit were 1, by B, both 2 and 3 would be elin.inated, and by E, 4 would be eliminated. Also by E, 6 would be the first digit of the answer and 9 the fourth. But this contradicts D since 7 would have to be the third digit of the answer. Therefore, 1 is not in the answer. If the fourth digit were 2, then by B, 3 would be eliminated. By E, then, 9 would be eliminated, and 6 would be the first digit of the answer and 4 the third. But this contradicts both A and C, since both 7 and 8 would have to be in the answer also. Therefore, 2 is not in the answer. By elimination, 3 is the second digit of the answer. By D, the answer includes both 8 and 7. By A, neither 4 nor 9 is in the answer. By E, 6 is the first digit of the answer. By D, 7 is the third digit of the answer and 8 is the fourth. The answer is 6378.

ADDITION LOGIC

1. Since HAIL = 30, then H, A, I, and L are 6, 7, 8, and 9, in some order, and since PEND = 10, then P, E, N, and D are 1, 2, 3, and 4, in some order. By elimination, R = 5. DEER = 16, and R = 5, so D + E + E = 11; D = 3 and E = 4. APED = 18, and E + D = 7, so A + P = 11; A = 9 and P = 2. PEND = 10, and P + E + D = 9, so N = 1. Since DILL = 26, and D = 3, then I + L + L = 23; I = 7 and L = 8. HAIL = 30, and A + I + L = 24, so H = 6. In summary: N = 1, P = 2, D = 3, E = 4, R = 5, H = 6, I = 7, L = 8, and A = 9.

2. Since PLUM = 10, then P, L, U, and M are 1, 2, 3, and 4, in some order. Since LULL = 10, then L and U are either 2 and 4 or 3 and 1, respectively. Since MEMO = 13, then E and O are 5 and 6, in some order, and M = 1. By elimination, L = 2, U = 4, and P = 3. Since NEED = 29, and E isn't 5 because that would leave 19 points for N + D; E = 6 and O = 5, and N and D are 8 and 9, in some order. Since NAME = 23, and M + E = 7, A + N = 16; N = 9, A = 7, and D = 8. In summary: M = 1, L = 2, P = 3, U = 4, O = 5, E = 6, A = 7, D = 8, and N = 9.

HALF TIME

The diagram consists of 112 squares, half of which is 56. There are 27 shaded squares, so the numbered areas to be shaded in must total 29. The only combination of areas that total 29 is #1, #6, and #7 (11 + 12 1/2 + 5 1/2 = 29).

CROSSMATH HELP

6-Across is 72 + 18 ÷ 9.

TWO-PART MATH

A. 246 x 5 = 1230

B. 787255 + 110356 = 897611.

WORD ARITHMETIC

0 1 2 3 4 5 6 7 8 9

1. P A L I N D R O M E
2. B E A U T Y/ S H O P
3. T H E/ A D V I S O R
4. C R A F T/ G U I L D
5. B R U T A L/ E N D S
6. B A C O N/ S T R I P
7. L O W/ T R A D E- I N
8. T I N Y/ Q U A L M S
9. L I G H T/ B R O W N
10. O B F U S C A T E D

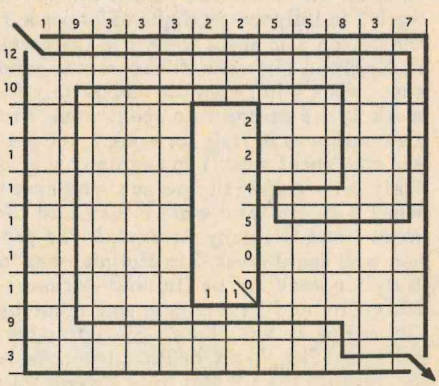
(made unclear)

11. B R O A D/ H I N T S
12. F A B R I C/ D Y E S
13. H I S/ P A Y M E N T
14. M A D E/ O F/ S I L K
15. L O U D/ C H I R P S
16. B E S T/ F L A V O R
17. N O B L E R/ C H A P
18. G O D F A T H E R S
19. P R O D U C T I V E
20. P U B L I C/ R O A D
21. I/ D R O V E/ A/ B U S
22. J O Y F U L/ T I M E
23. C O M E/ B Y/ R A I L
24. B R A Z E N/ K I D S
25. S I X T H/ G R A D E
26. C A M P G R O U N D
27. S H I N Y/ W A T E R
28. J U S T/ B E/ F I R M
29. B I G/ C O U N T R Y
30. C H A N G E/ V O W S
31. U N D E R C O A T S
32. M U S T Y/ R E L I C
33. B A N D O L I E R S

(ammunition belts worn across the chest)

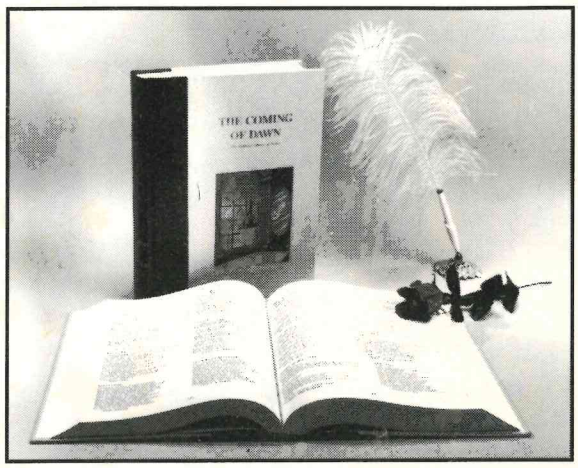
34. H A R V E S T I N G
35. Y O U N G/ C H I L D
36. C O M P L A I N E D
37. M Y/ D I A L O G U E
38. F I N E/ C U S T O M
39. C A N D Y/ B O X E S
40. G R O U N D/ M E A T
41. T R E N D Y/ F I L M
42. L A N D/ S U R V E Y
43. B R O K E N/ L A M P
44. S C O W L/ A T/ H I M
45. C O M E T/ F L A S H

MATH MAZE



New Poetry Contest $48,000.00 in Prizes

The National Library of Poetry to award 250 total prizes to amateur poets in coming months



The National Library of Poetry publishes the work of amateur poets in colorful hardbound anthologies like ***The Coming of Dawn,*** *pictured above. Each volume features poetry by a diverse mix of poets from all over the world.*

Owings Mills, Maryland – The National Library of Poetry has just announced that $48,000.00 in prizes will be awarded over the next 12 months in the brand new North American Open Amateur Poetry Contest. The contest is open to everyone and entry is free.

"We're especially looking for poems from new or unpublished poets," indicated Howard Ely, spokesperson for The National Library of Poetry. "We have a ten year history of awarding large prizes to talented poets who have never before won any type of writing competition."

How To Enter

Anyone may enter the competition simply by sending in ***ONLY ONE*** original poem, any subject, any style, to:

The National Library of Poetry
Suite 8212
1 Poetry Plaza
Owings Mills, MD 21117-6282

Or enter online at **www.poetry.com**

The poem should be no more than 20 lines, and the poet's name and address must appear on the top of the page. "All poets who enter will receive a response concerning their artistry, usually within seven weeks," indicated Mr. Ely.

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